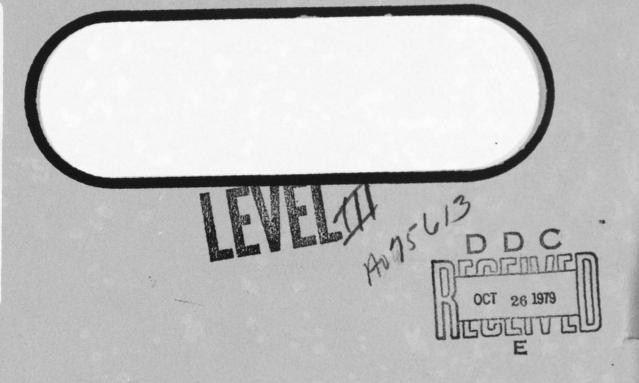


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P.O. BOX 16858 CODE IDENT. NO. 77272

NUMBER | D210-11168-3-Volume 5 of 13

CH-46 COMPOSITE ROTOR BLADE FLIGHT STRESS

SURVEY DATA, PLOTTED AFT ROTOR BLADE CHORD

. FOR THE RELEASE DATE OF ORIGINAL RELEASE DATE_ SUBSEQUENT REVISIONS, SEE THE REVISION SHEET. FOR LIMITATIONS IMPOSED ON THE DISTRIBUTION AND USE OF INFORMATION CONTAINED IN THIS DOCUMENT, SEE THE LIMITATIONS SHEET.

_____CONTRACT N00019-75-C-0396 MODEL ___CH-46

ISSUE NO. __ _____ ISSUED TO:

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Volume V.

APPROVED BY

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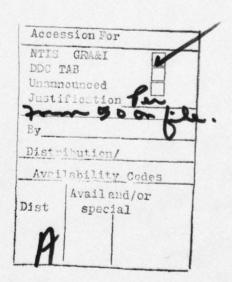
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NUMBER D210-11168-3 REV LTR Vol. 5

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PREPARED BY: CHECKED BY:

J. Bendo

D210-11168-3 NUMBER Vol. 5 REV LTR MODEL NO.

THE BUEING COMPANY DATE:

8/28/78

ABSTRACT

This report volume presents plotted aftrotor blade chord, torsion and absolute loads measured during the CH-46 Composite Rotor Blade Flight Stress Survey.

KEYWORDS

CH-46E Composite Rotor Blade Flight Stress Survey Alternating and Steady Loads

MODEL NO.

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	GW = 20800 lbs., C.G. = 22.4" Fwd GW = 20800 lbs., C.G. = 9.7" Aft GW = 24300 lbs., C.G. = 13.2" Fwd GW = 24300 lbs., C.G. = Aft (4.4" Fwd) GW = 24300 lbs., C.G. = 1.5" Aft (Ext. Cargo)	226 235 244 251 258
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PREPARED BY: J. Bendo NUM

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D210-11168-3 NUMBER VO1. 5 REV LTR MODEL NO.



REFERENCES

- Vertol Report D210-11168-1 "CH-46 Composite Rotor Blade Flight Test Qualification Test Plan" March 30, 1977
- Vertol Report D210-11168-2 "CH-46 Composite Rotor Blade Flight Test Report" May 15, 1978
- Boeing Vertol Report D210-11168-3 Volume 1 of 13, CH-46 Composite Rotor Blade Flight Stress Survey Data
- Boeing Vertol Report D210-11168-3 Volume 10 of 13, CH-46 Composite Rotor Blade Flight Stress Survey Data, Tabulated Aft Blade Angles and Loads

D210-11168-3

NUMBER Vol. 5 **REV LTR** MODEL NO.

THE BOEING COMPANY

PREPARED BY: J. Bendo CHECKED BY: 8/29/78 DATE:

1. INTRODUCTION

A flight stress survey was conducted on a CH-46 helicopter with A02R1702 composite rotor blades. The test was conducted in accordance with Paragraphs 4.3.2 and 4.7 of Reference 1. General test description and pilot comments are included in Reference 2.

The tests were conducted at the Boeing Vertol Flight Test Facility at Ridley Township, Pennsylvania, during the period of June 1977 through November 1977.

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8/29/78

MODEL NO.

2. SUMMARY

A flight stress survey and structural demonstration was conducted on the #1 CH-46E Helicopter, BuNo. 153372 (S/N 2268).

The components under test were the A02R1702 composite rotor blades and the A02R1710 blade socket.

This volume contains measured steady and alternating aftrotor blade chord, torsion and absolute loads plotted versus true airspeed. The same data is tabulated in Volume 10.

D210-11168-3

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REV LTR MODEL NO.

THE BOEING COMPANY

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DATA PRESENTATION

This report contains measured steady and alternating aft blade chord, torsion and absolute loads. The data is presented as plots versus true airspeed. The steady and alternating values are plotted separately and appear together as two plots per page for various level flight and maneuver conditions. The load levels shown represent the maximum alternating load cycle occurring during the particular flight condition. This same data is tabulated in Volume 10.

Detailed flight condition parameters and a complete tabulated summary of maneuvers for each flight can be found in Volume 1 of this report.

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THE BOEING COMPANY DATE:

8/31/78

3.1 Gage Identification and Index

Data plot indexing, strain gage identification and instrumentation code information for data presented in this volume are as follows:

DATA	CODE	MEASUREMENT	
ACTIVE	SPARE	NAME UNITS	DATA PLOT PAGE #
49760	69760	Aft Blade Chord Bending Sta. 50. (IN-LB)	21
49770	69770	Aft Blade T.E. Tension Sta. 88. (IN-LB)	55
49780	69780	Aft Blade T.E. Tension Sta. 159. (IN-LB)	89
49790	69790	Aft Blade Torsion Bending Sta. 52.(IN-LB)	123
49800	69800	Aft Blade Torsion Bending Sta.138. (IN-LB)	157
49810	69810	Aft Blade Torsion Bending Sta.242.(IN-LB)	191
49820		Aft Blade Absolute Top L.E. (MIN/IN) Sta. 73.	225
49840	-	Aft Blade Absolute Top L.E. (MIN/IN)	259
49860	69860	Aft Blade Extension Link Chord (IN-LB) Bending	293

NOTES:

- 1. A complete description of the instrumentation for this stress survey can be found in Volume 1.
- A flight by flight summary of operative gages can be found in Reference 2.
- 3. The spare gages were utilized when the active gages proved inoperable.

(+) POLARITY CONDITION

THE BOEING COMPANY DATE:

GAGE MEASUREMENT

NAME

3.2

Sign Convention

The following table summarizes the sign convention adhered to for the gages presented in this volume.

Aft Blade	Chord Bending Sta. 50.	Blade Leading
Aft Blade	T.E. Tension Sta. 88.	Blade Leading
Aft Blade	T.E. Tension Sta. 159.	Blade Leading
Aft Blade	Torsion Bending Sta. 52.	L.E. Up
Aft Blade	Torsion Bending Sta. 138.	L.E. Up
Aft Blade	Torsion Bending Sta. 242.	L.E. Up
Aft Blade	Absolute Top L.E. Sta. 73.	Tension
Aft Blade	Absolute Top L.E. Sta. 240.	Tension
Aft Blade	Extension Link Chord Bending	Blade Leading

PREPARED BY: J. Bendo

D210-11168-3 NUMBER Vol. 5

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THE BOEING COMPANY

CHECKED BY: 9/5/78 DATE:

3.3 Plot Format

The data plots have been grouped by common flight conditions and maneuvers and are presented in the order outlined by the data plot format table included on the next page.

For identification of data plots the plot code number in the right hand column of the table is printed on each corresponding plot chart.

Please note that many sumbols are used more than once.

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D210-11168-3 NUMBER Vol. 5

REV LTR MODEL NO.

THE BUEINE COMPANY DATE:

CHECKED BY:

9/5/78

PLOT FORMAT

GROSS WEIGHT LBS.	C.G.	HD FT.	RPM	CONDITION	PLOT CODE NO.
20800	22.4"Fwd	2000	264	Level Flt.	- 1
		14000		Level Flt.	- 2
		All		Pullups(PWR ON&OFF), P.P.D. Rec.	-11
				Turns (PWR ON&OFF)	-15
				Control Rev.'s (PWR ON)	-19
				Control Rev.'s (PWR OFF), Flares	-23
	*	*		P.P.D.'s, Autorotation	-27
	9.7"Aft	2000		Level Flt.	- 3
		6000		Level Flt.	- 4
		14000	*	Level Flt.	- 5
		6000	248	Level Flt.	-10
		All	264	Pullups(PWR ON&OFF),P.P.D. Rec.	-12
				Turns (PWR ON&OFF)	-16
				Control Rev.'s (PWR ON)	-20
				Control Rev.'s(PWR OFF), Spiral Desc., Flares	-24
<u> </u>	7	*		P.P.D.'s Autorotation	-28
24300	13.2"Fwd	2000		Level Flt.	- 6
		8000		Level Flt.	- 7
		All		Pullups(PWR ON&OFF)	-13
				Turns (PWR ON&OFF)	-17
				Control Rev.'s (PWR ON)	-21
				Spiral Descent, Flares	-25
7	1		-	P.P.D.'s, P.P.D. Rec., Autorotation	-29

CONTINUED ON NEXT PAGE

D210-11168-3

NUMBER Vol. 5

PREPARED BY: J. Bendo

CHECKED BY:

9/5/78

REV LTR MODEL NO.

THE BUELLY COMPANY DATE:

Plot Format (Continued)

GROSS WEIGHT LBS.	C.G. IN.	HD FT.	RPM	CONDITION	PLOT CODE NO.
24300	4.4"Fwd	2000	264	Level Flt.	- 8
1		8000		Level Flt.	- 9
		All		Pullups (PWR ON&OFF)	-14
				Turns (PWR ON&OFF)	-18
				Control Rev.'s (PWR ON)	-22
				Spiral Descent, Flares	-26
	1			P.P.D.'s, Autorotation	-30
4	1.5"Aft	2000	+	Level Flight (External Cargo)	-35

PREPARED BY:

J. Bendo

D210-11168-3 NUMBER Vol. 5

REV LTR MODEL NO.

THE BOEING COMPANY DATE:

CHECKED BY:

9/5/78

4. PLOTTED DATA

THE BOEING COMPANY DATE:

PREPARED BY: J. Bendo

NUMBER D210-11168-3 REV LTR

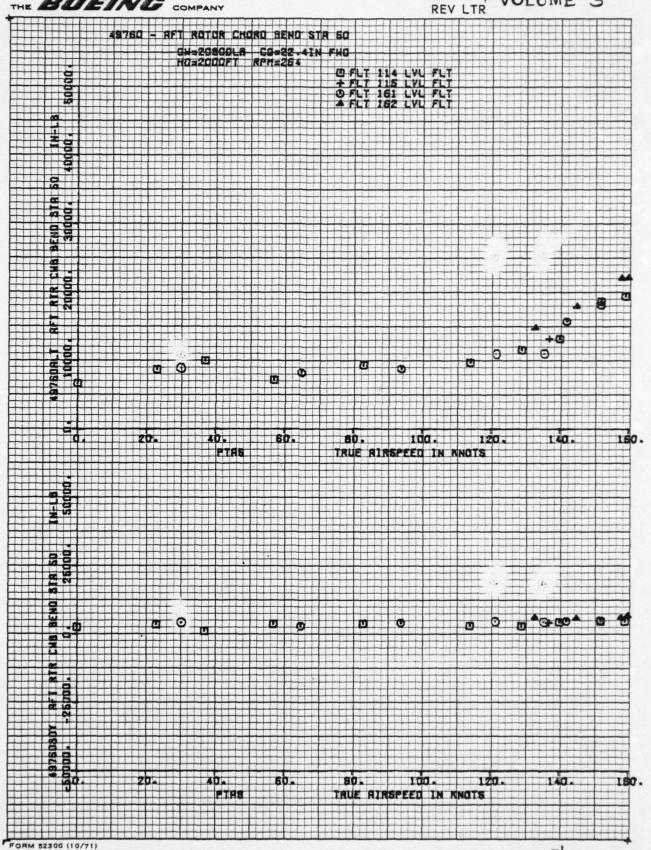
Volume 5

MODEL NO.

CHECKED BY:

8/28/78

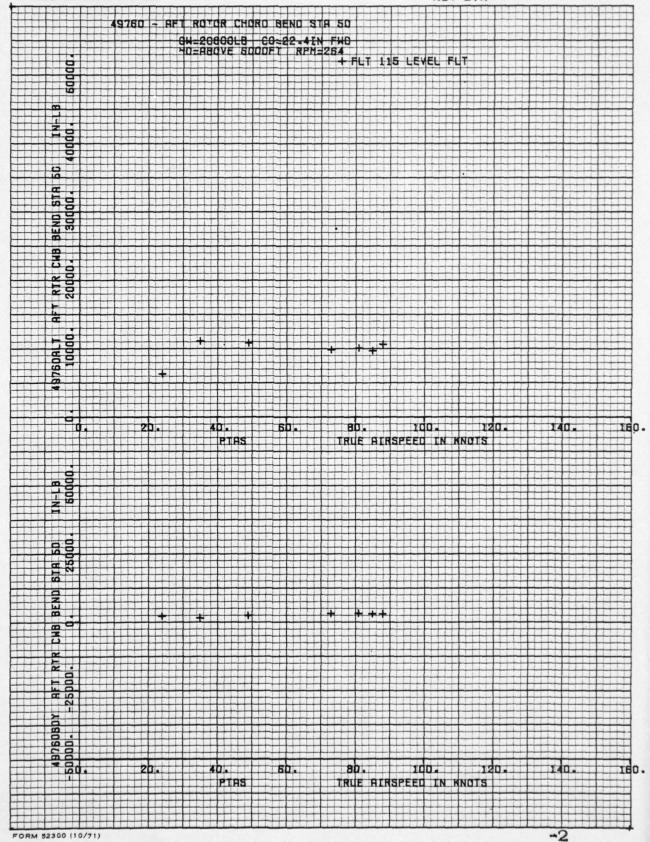
4.1 Aft Blade Chord Bending Station 50.

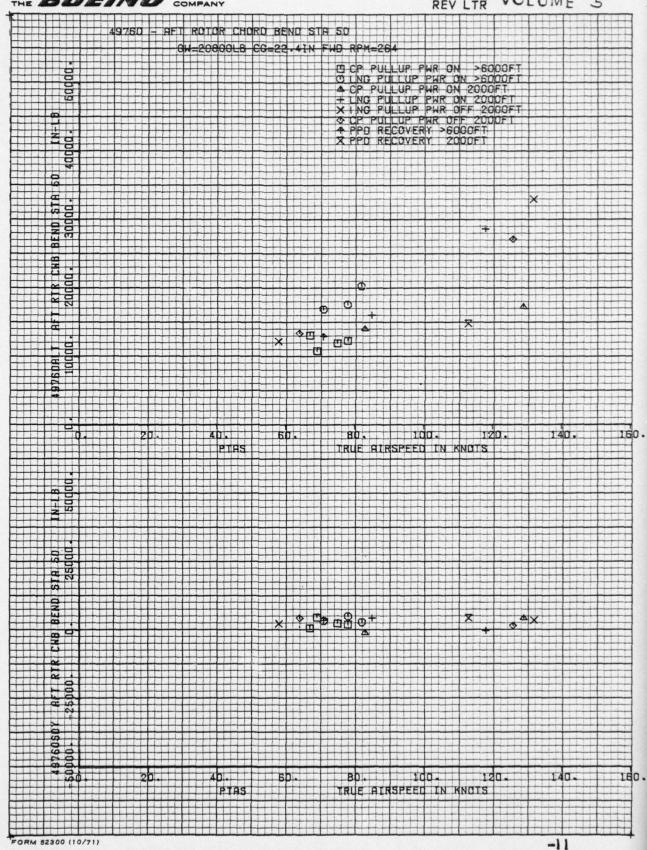


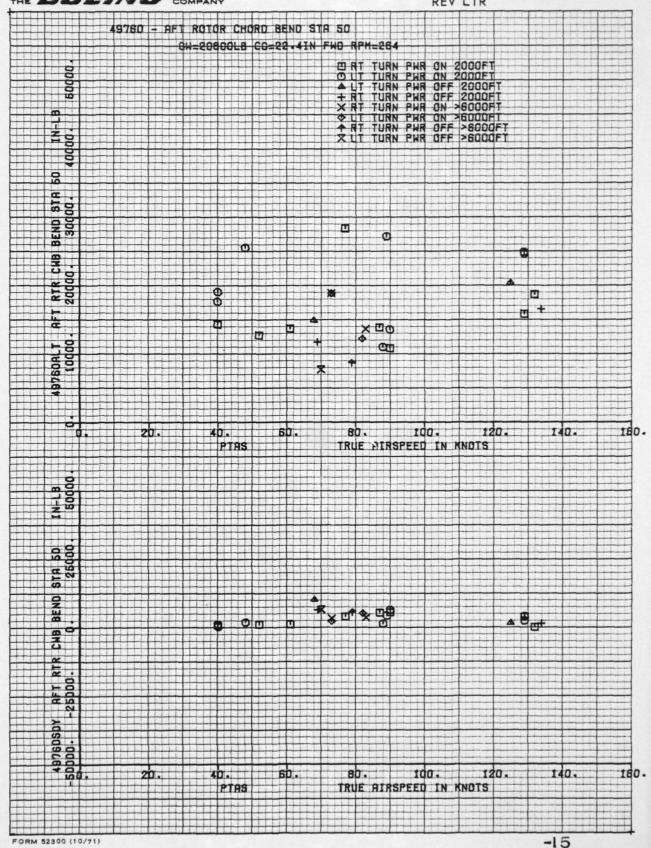
D210-11168-3

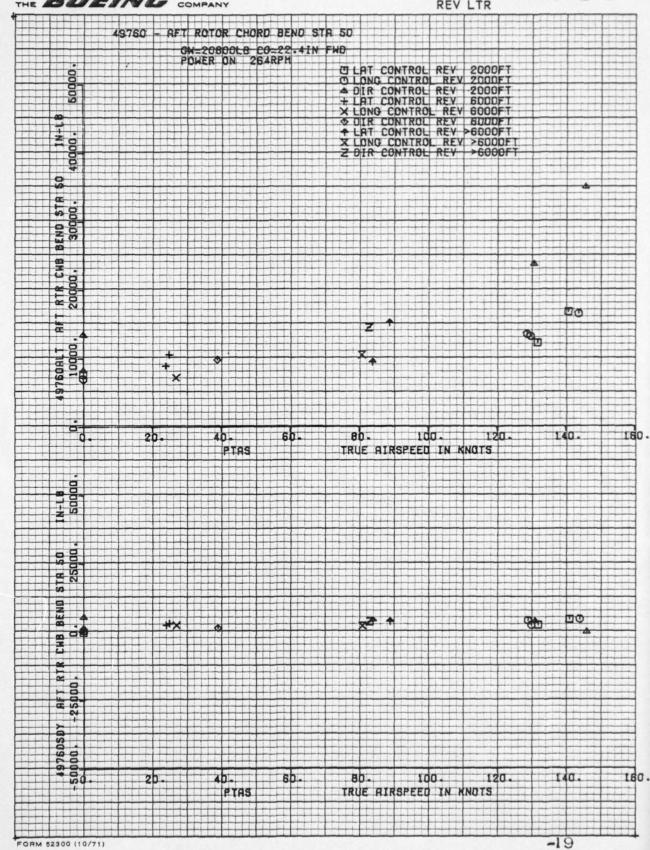
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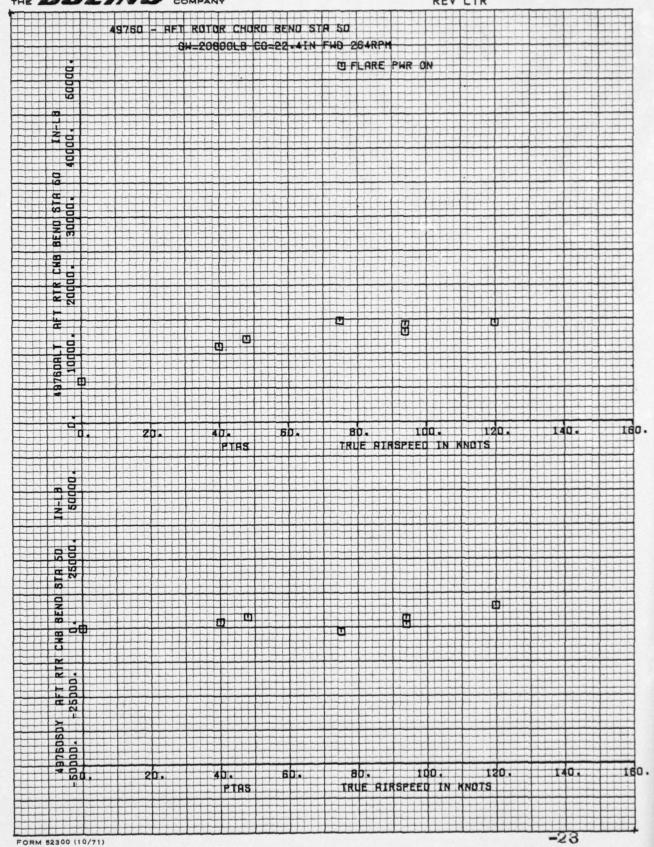




D210-11168-8 NUMBER ! VOLUME 5

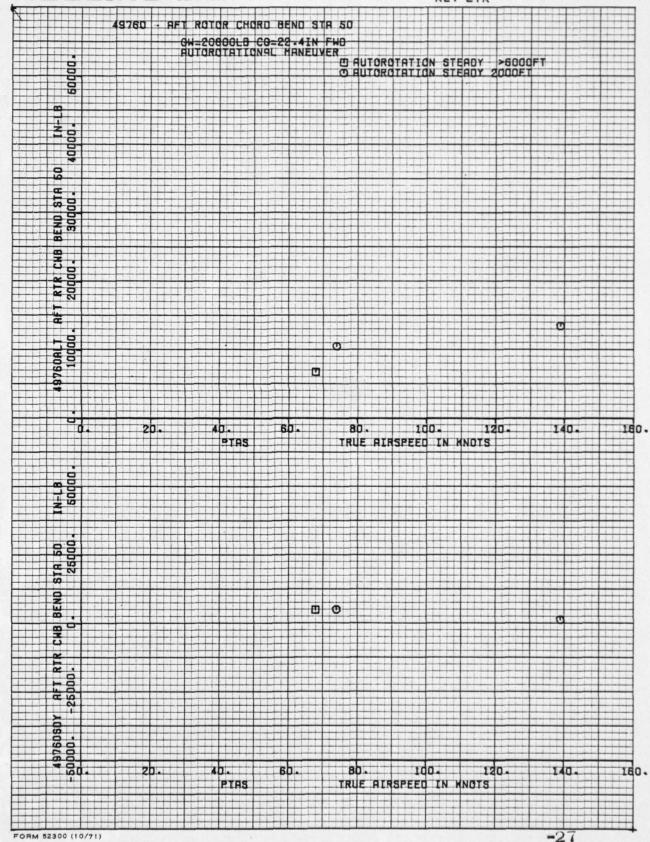
THE BOEING COMPANY

REV LTR 49760 - RET ROTOR CHORD BEND STA 50 QH=20800L8 C0=22-4IN FHD POWER OFF 264RPM D LAT CONTROL REV 2000FT
O LONG CONTROL REV 2000FT
DIR CONTROL REV 2000FT
LAT CONTROL REV >6000FT
X LONG CONTROL REV >6000FT
Z DIR CONTROL REV >6000FT BEND STR 30000. 00 TR CM AFT RTR 200 0 19760A.T 40. 80. 100. 160 . 140 . TRUE RIRSPEED IN MNOTS STA 250 BEND O E CWB 80. 100. 140. 160. TRUE AIRSPEED IN MNOTS PTAS -23 FORM 52300 (10/71)

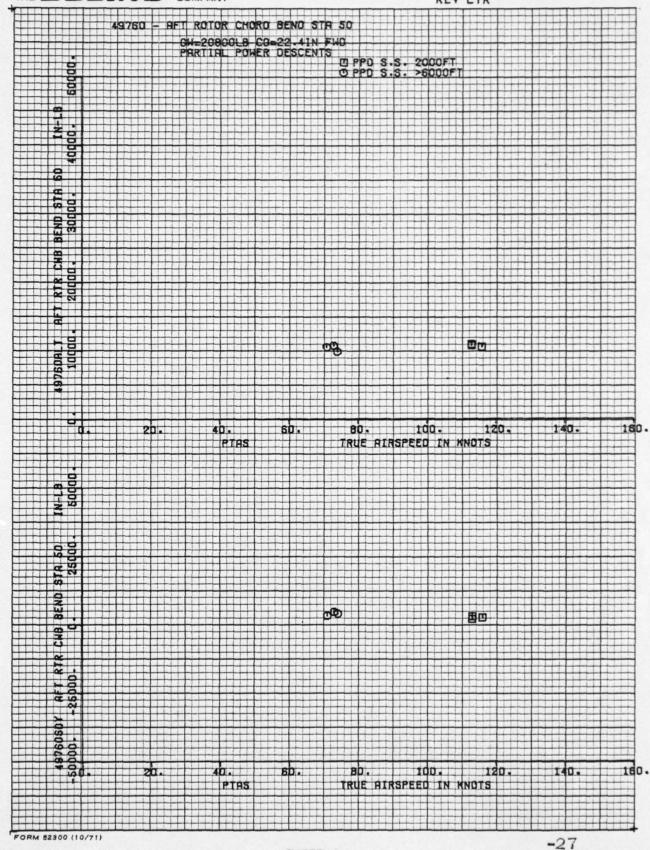


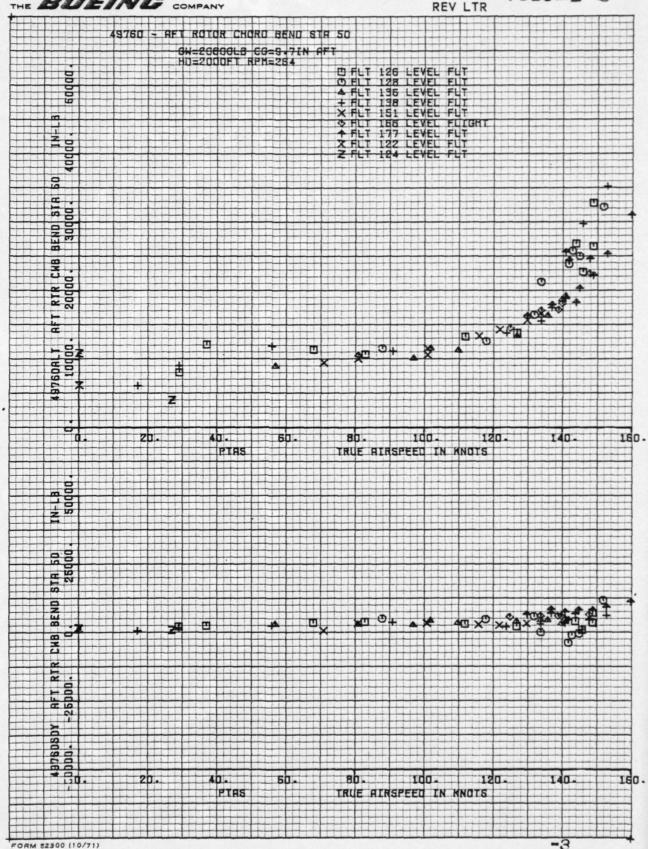
D210-11168-3 NUMBER | VOLUME 5 REV LTR

THE BOEING COMPANY



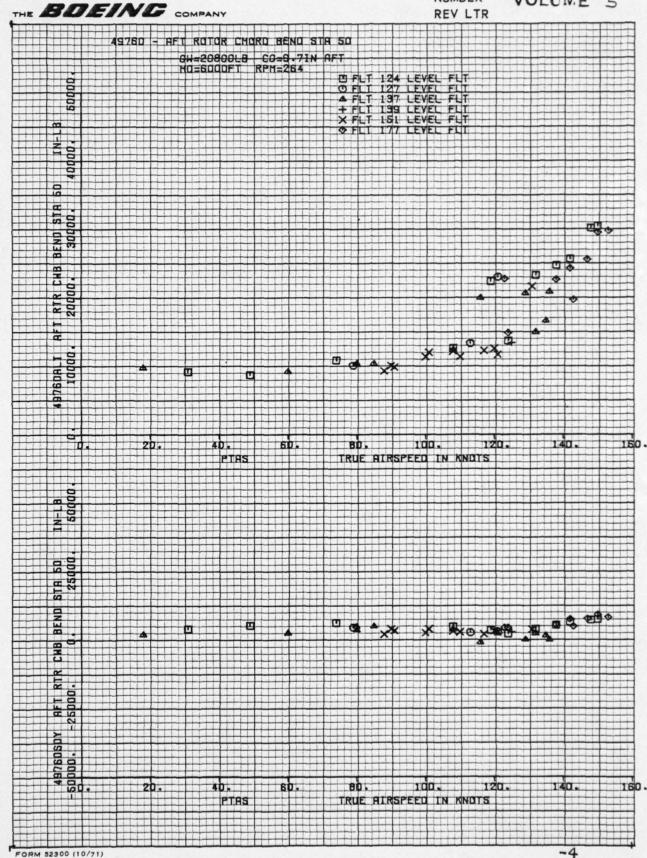
NUMBER REV LTR VOLUME 5

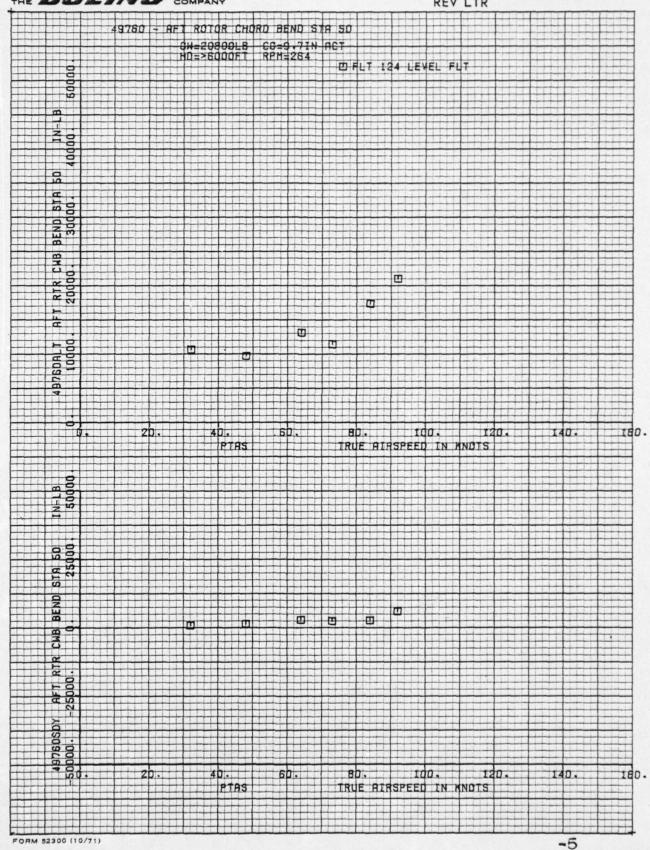




D210-11168-3 VOLUME 5

NUMBER REV LTR

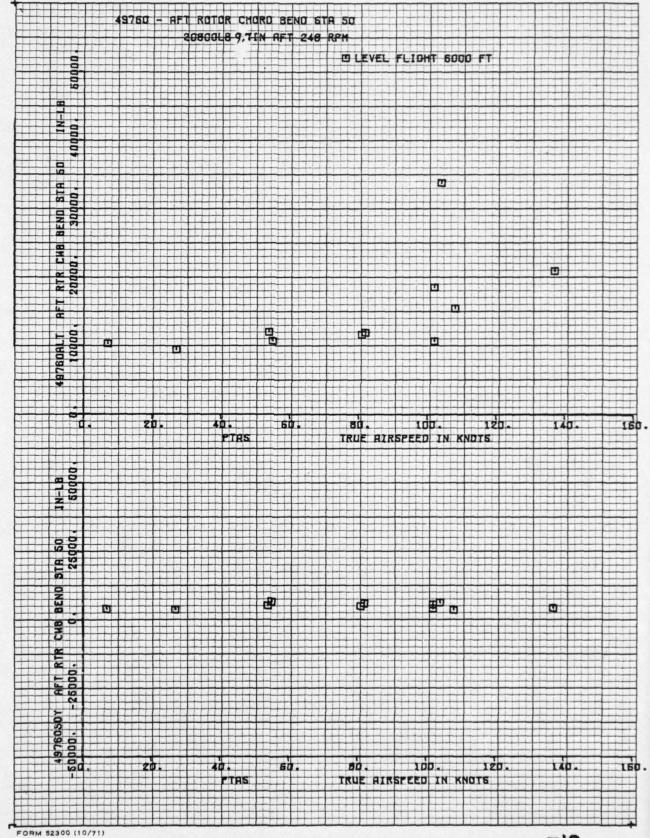


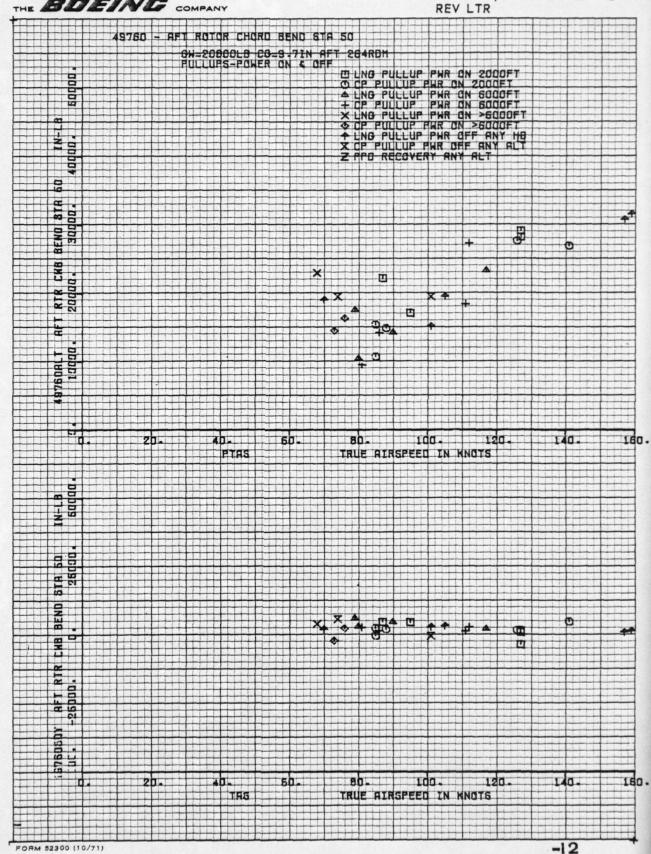


D210-11168-3 VOLUME 5

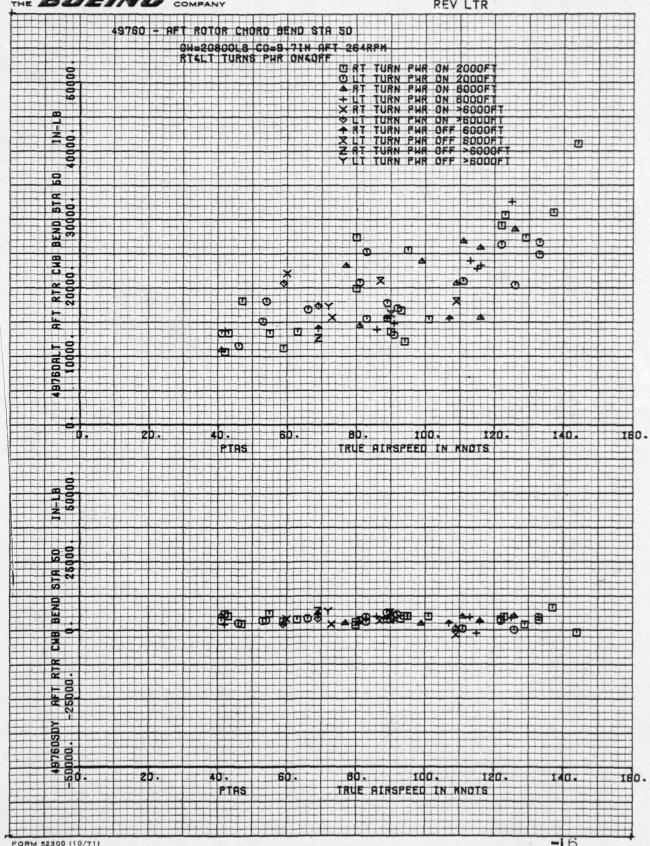
NUMBER REV LTR

THE BOEING COMPANY

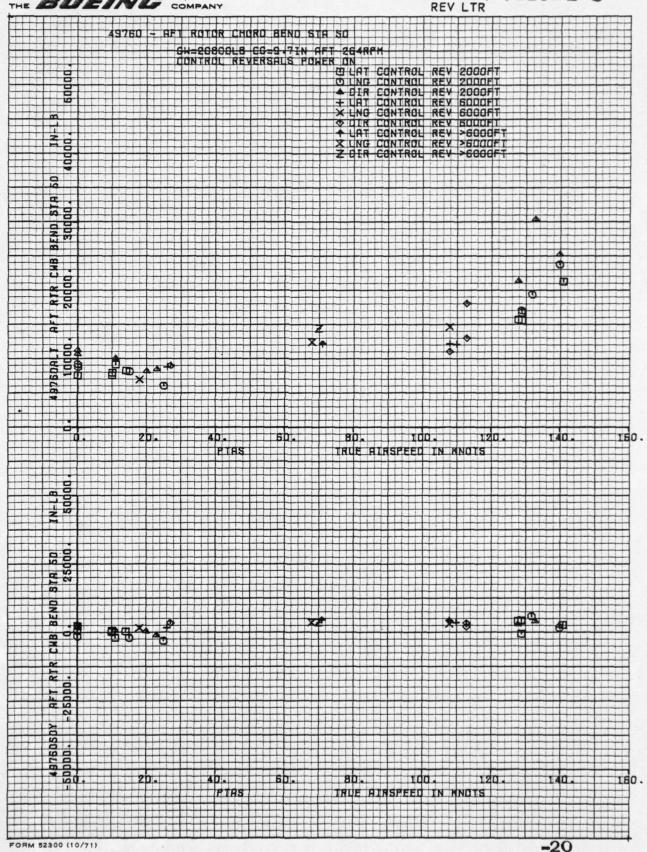




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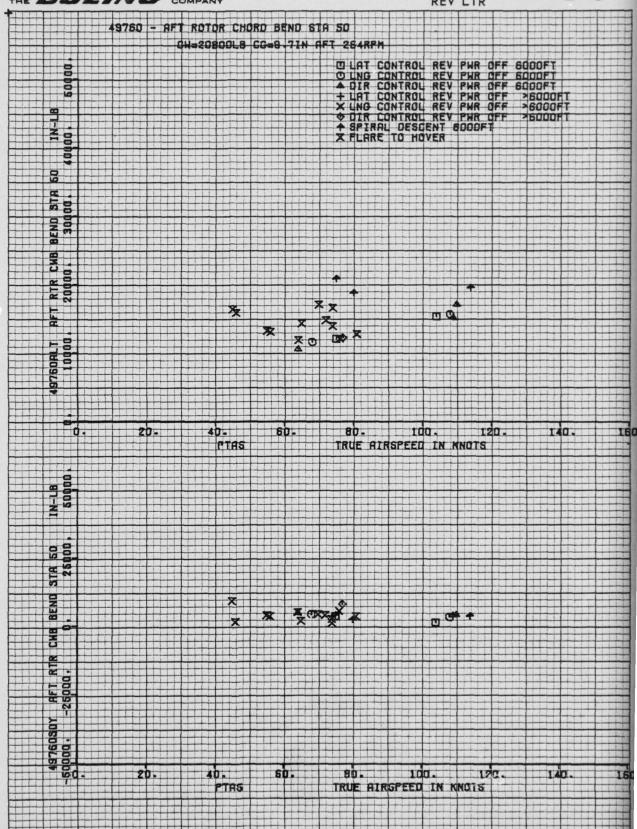
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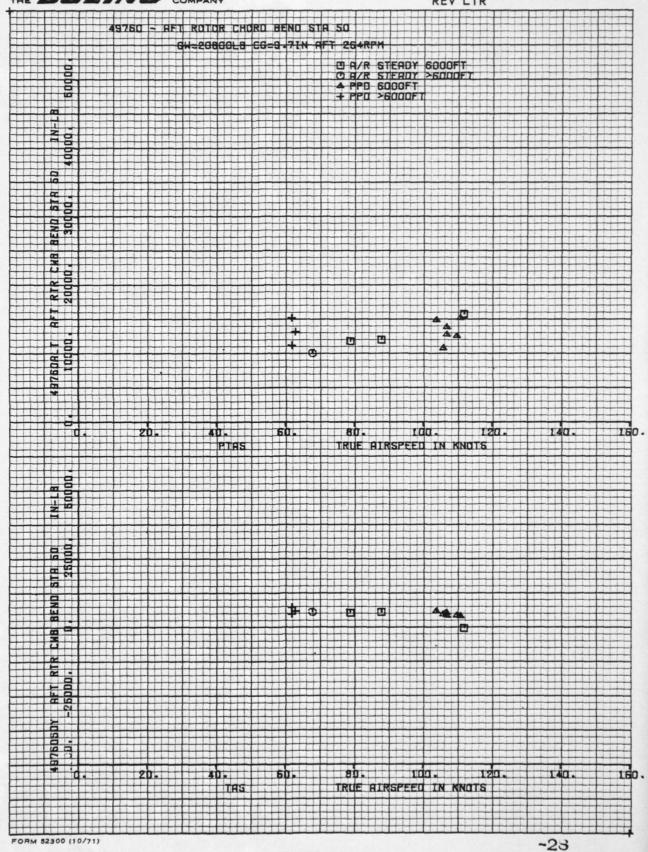
-24

THE BUEING COMPANY

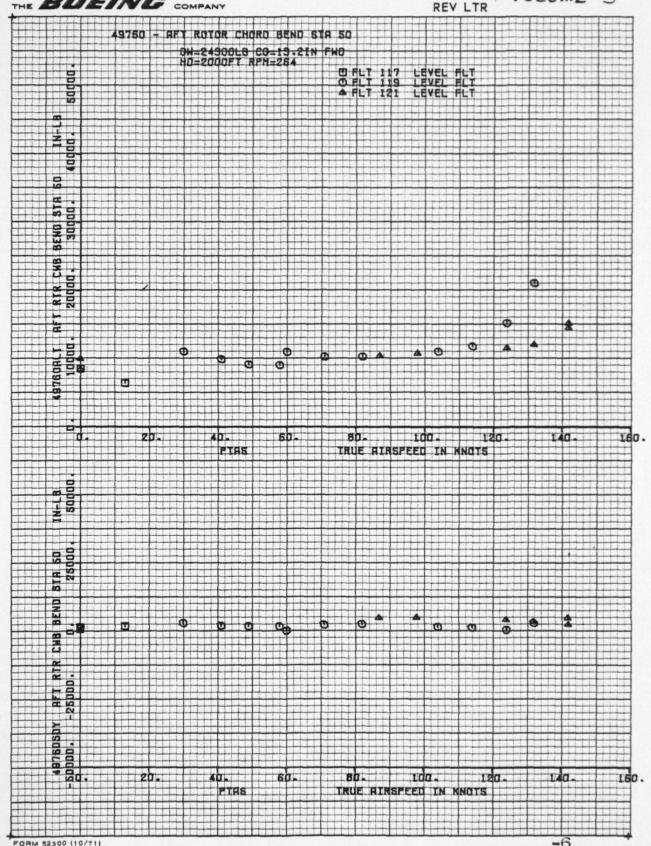
FORM 52300 (10/71)



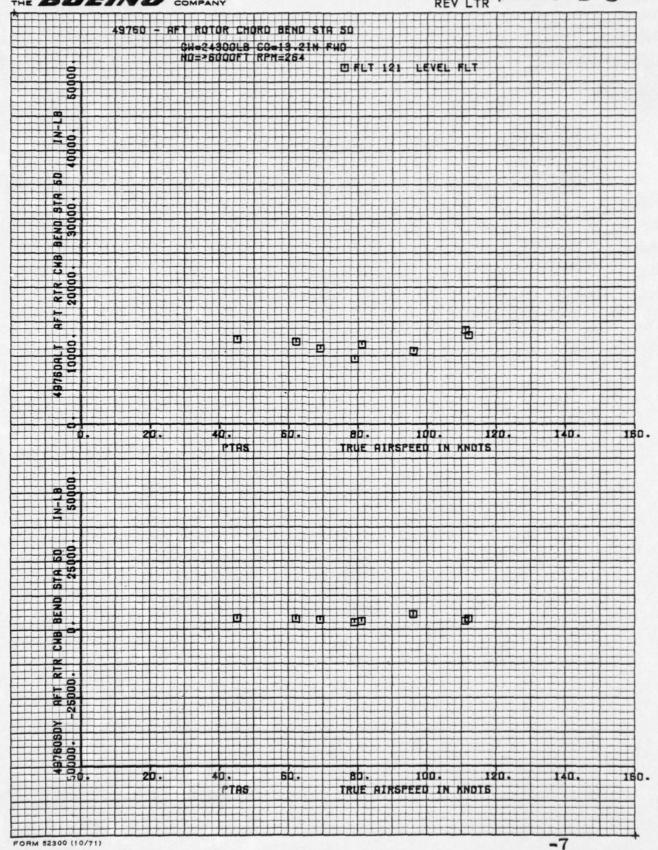
NUMBER | VOLUME 5

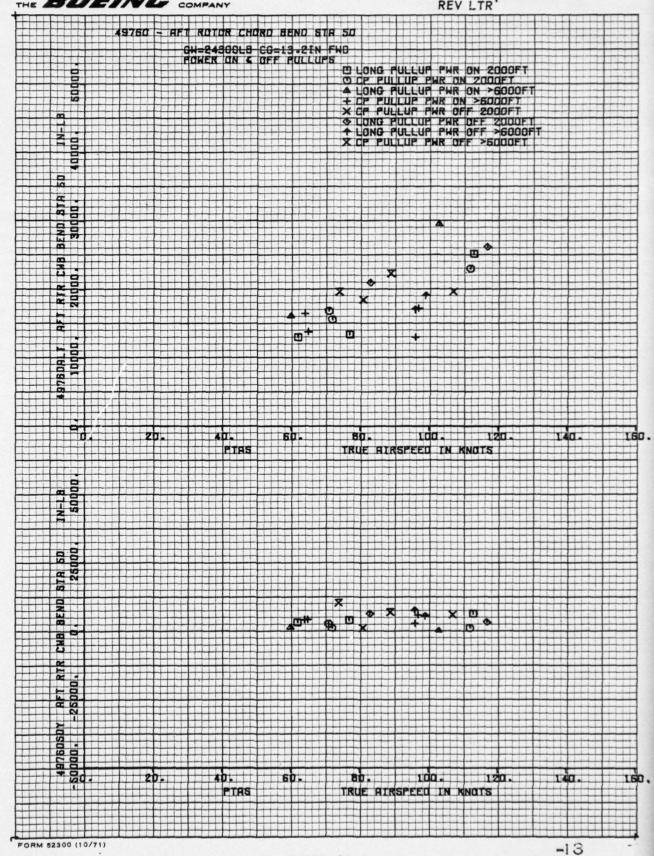


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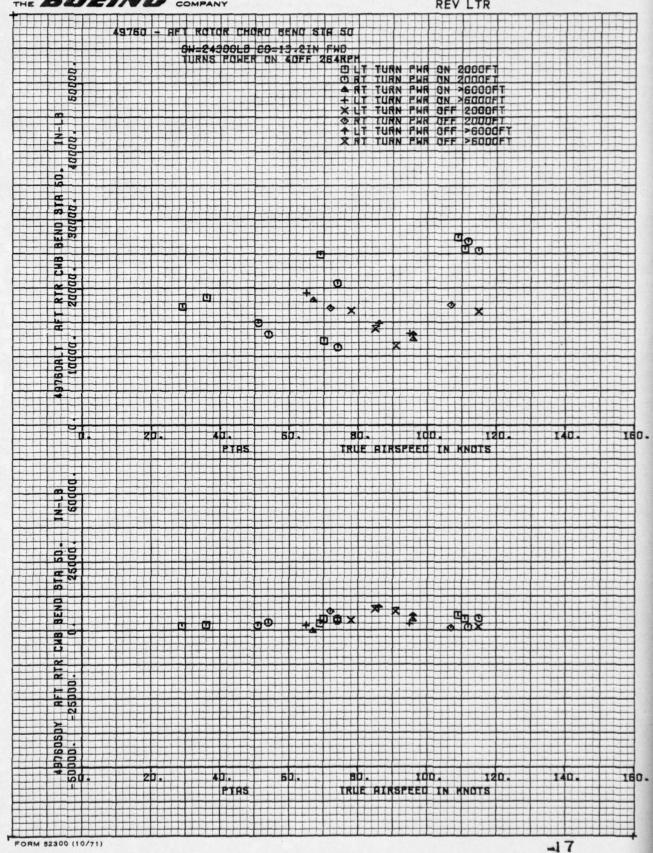


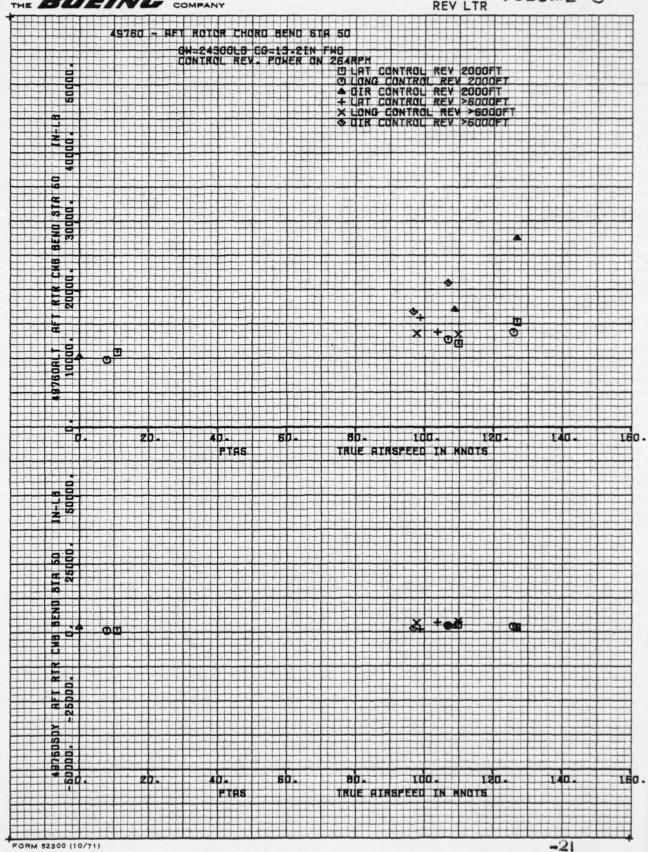
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NUMBER VOLUME 5

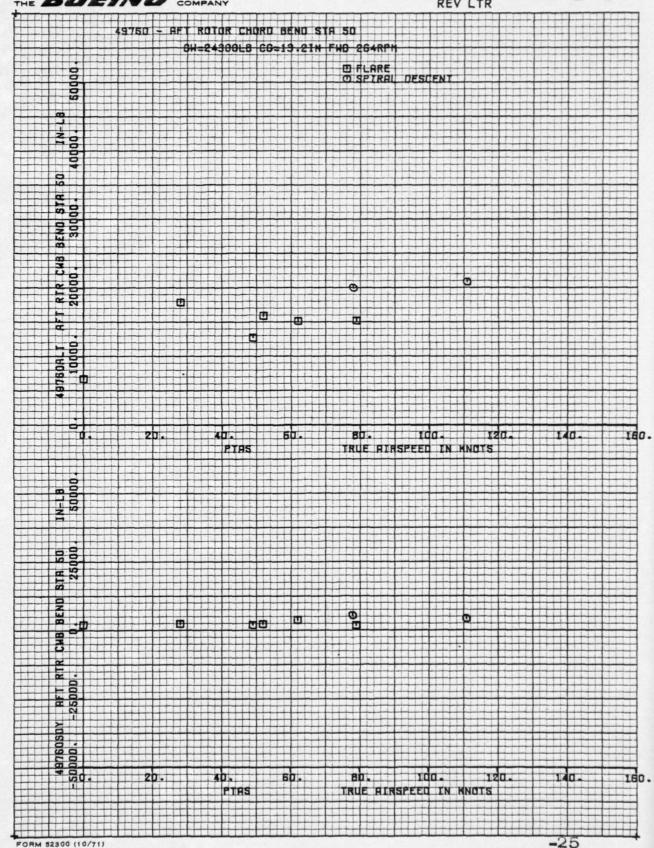




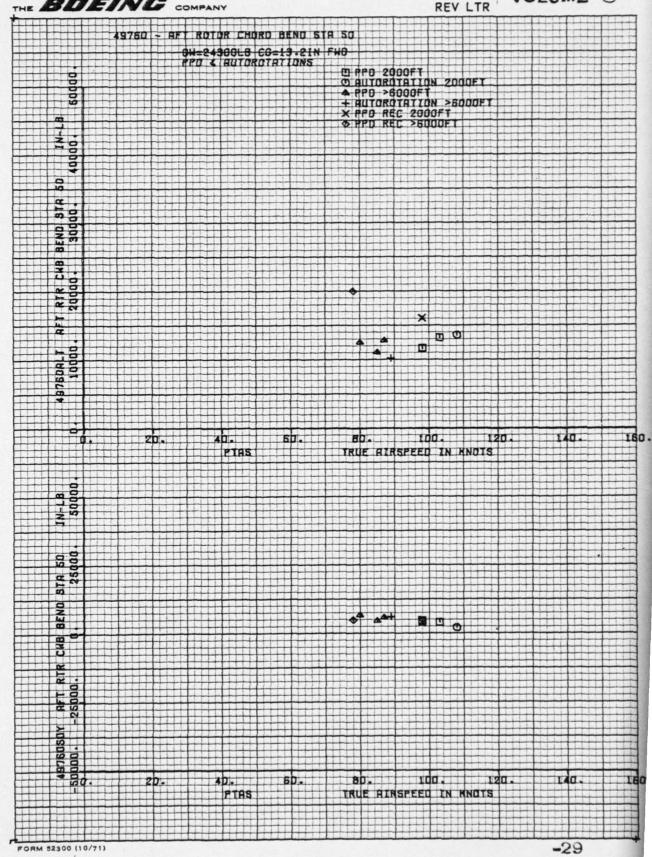
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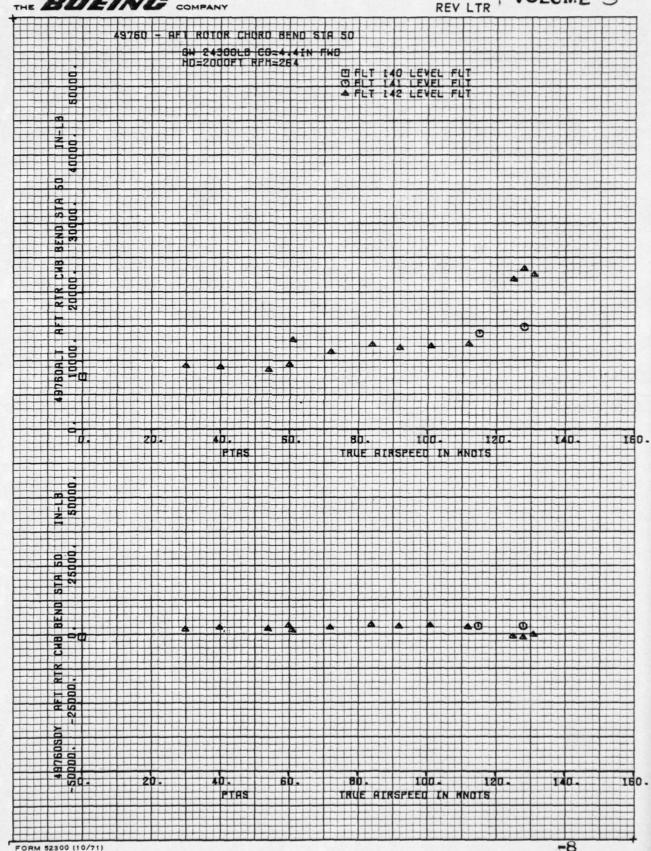




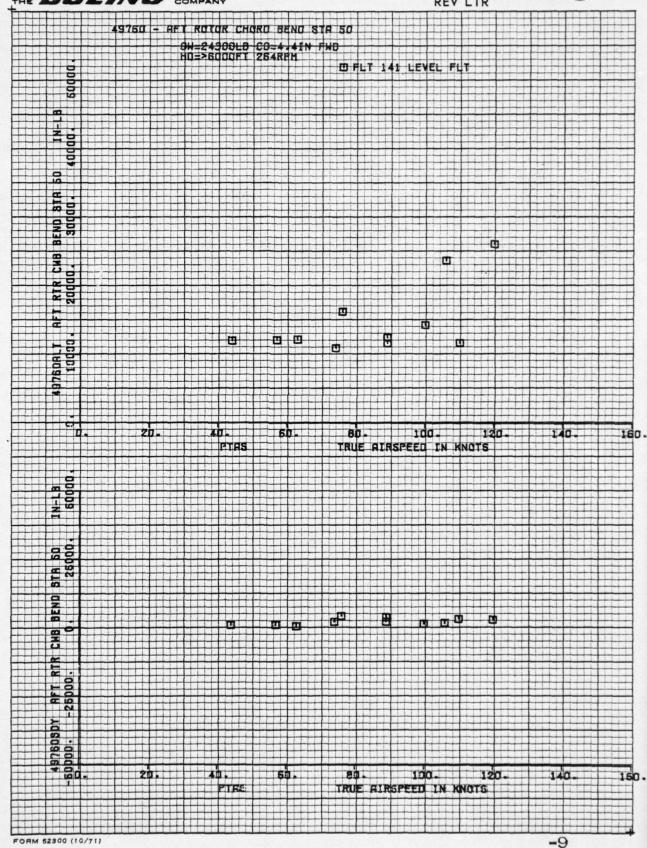
D210-11168-3 NUMBER | VOLUME 5 REV LTR

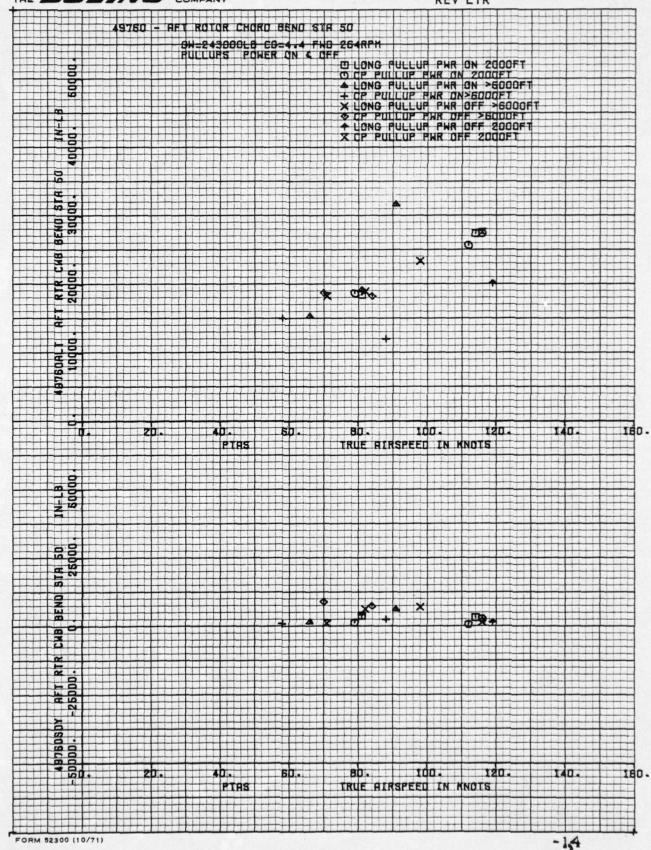


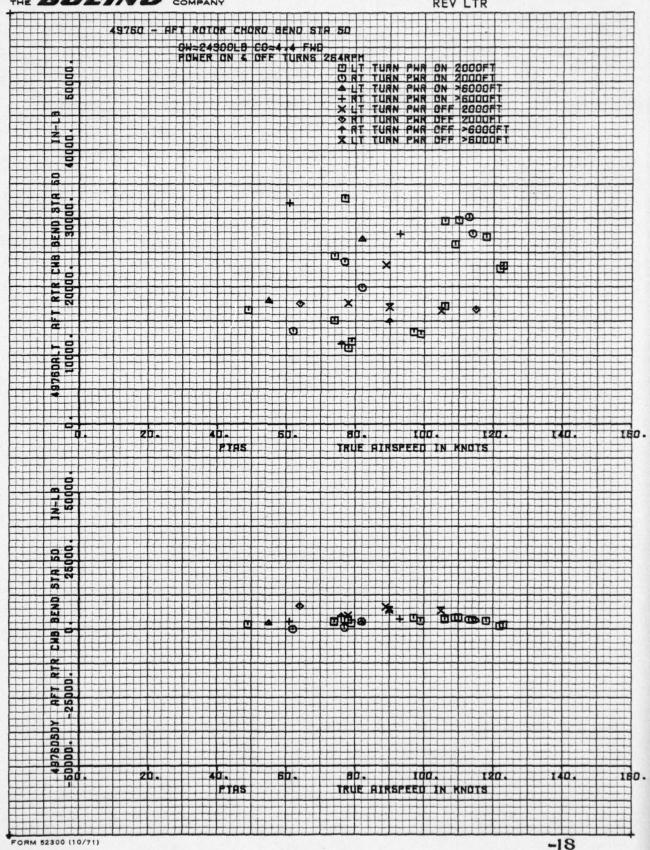
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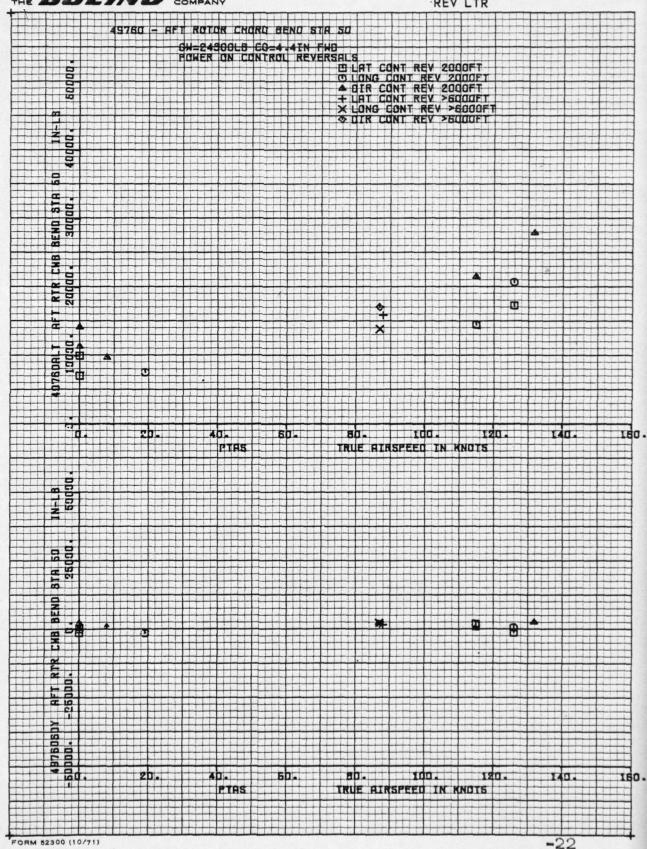


NUMBER FVOLUME 5

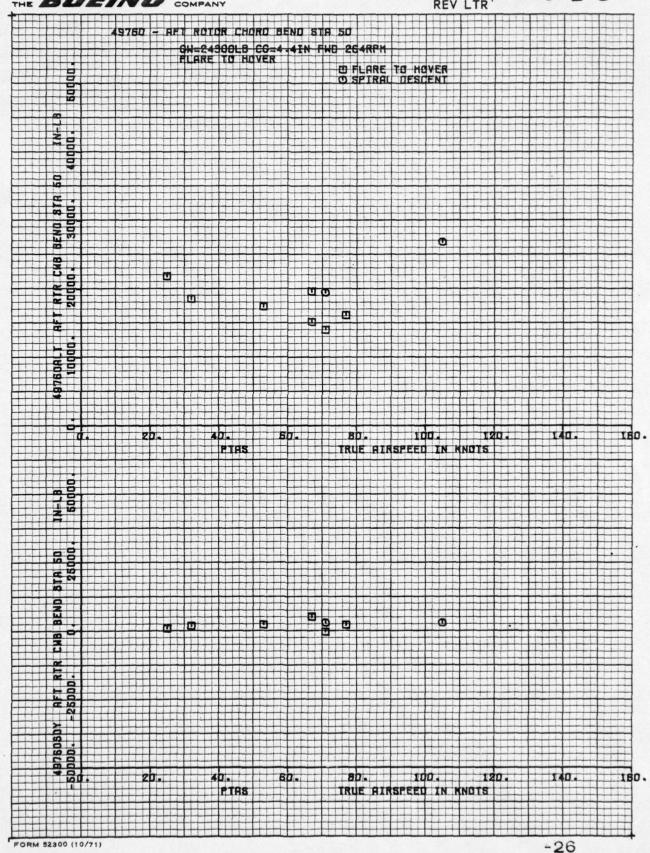




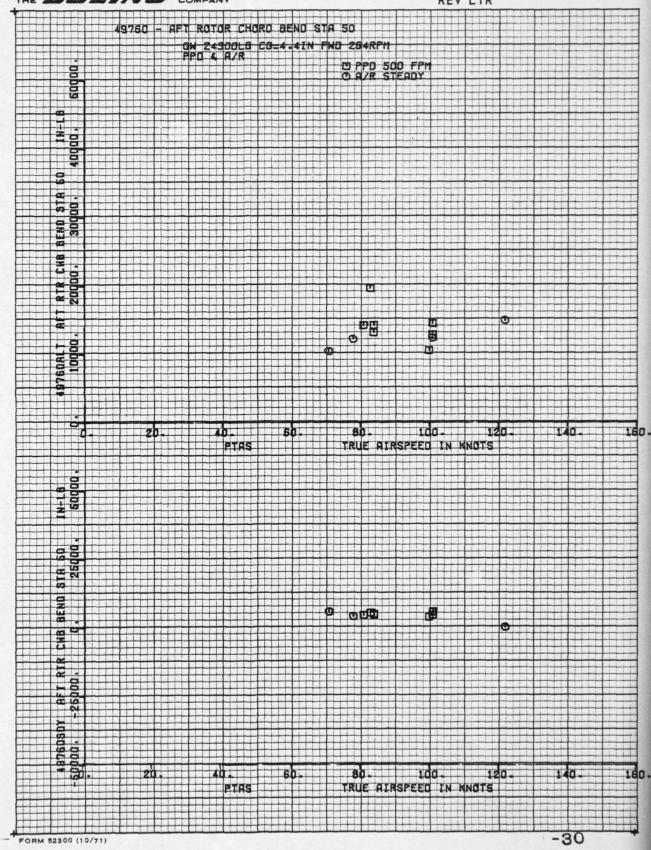




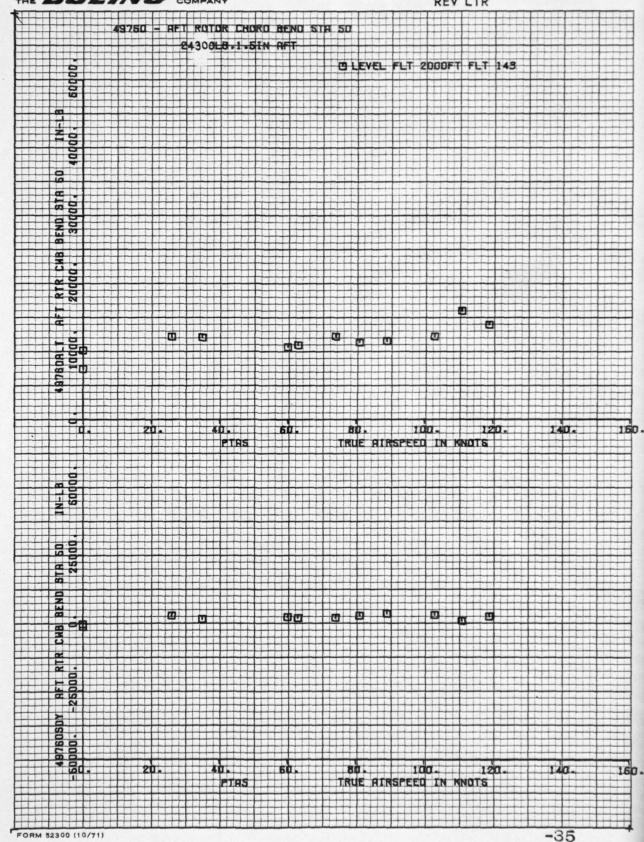
D210-11168-3 NUMBER | VOLUME 5 REV LTR



D210-11168-3 NUMBER VOLUME 5 REV LTR



D210-11168-3 NUMBER | VOLUME 5



PREPARED BY: J. Bendo

NUMBER D210-11168-3 REVLTR Volume 5

MODEL NO.

THE BOEING COMPANY DATE:

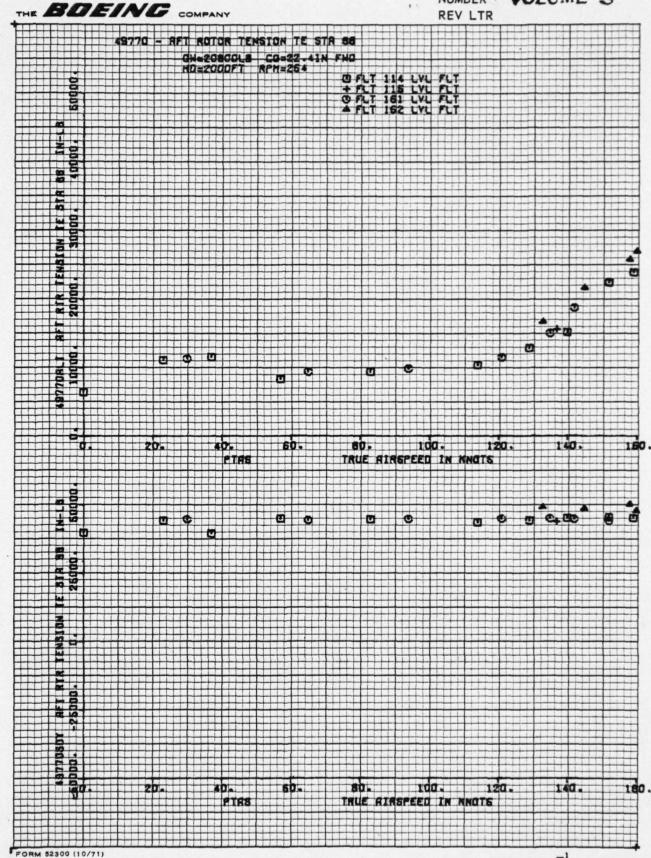
CHECKED BY:

8/28/78

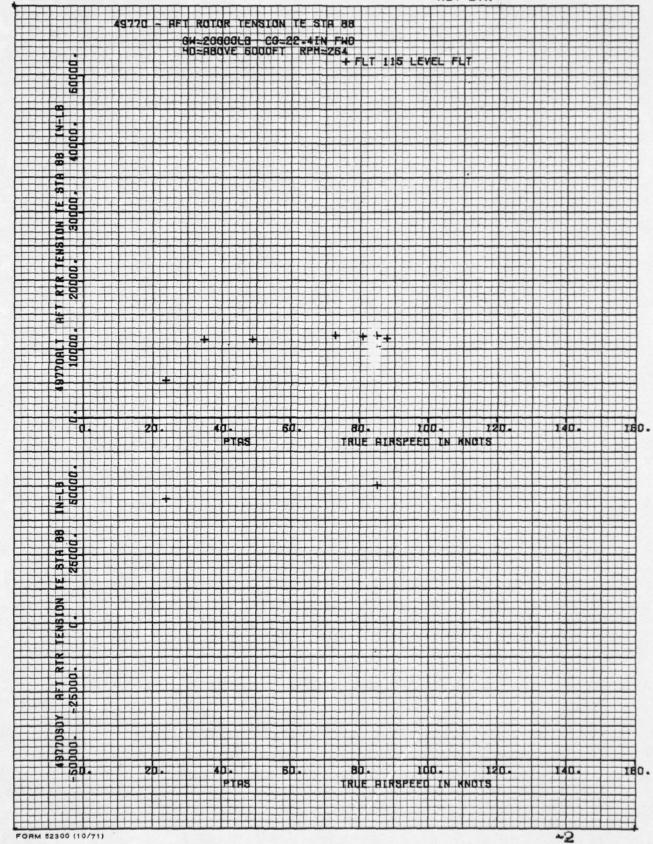
4.2 Aft Blade T.E. Tension Station 88.

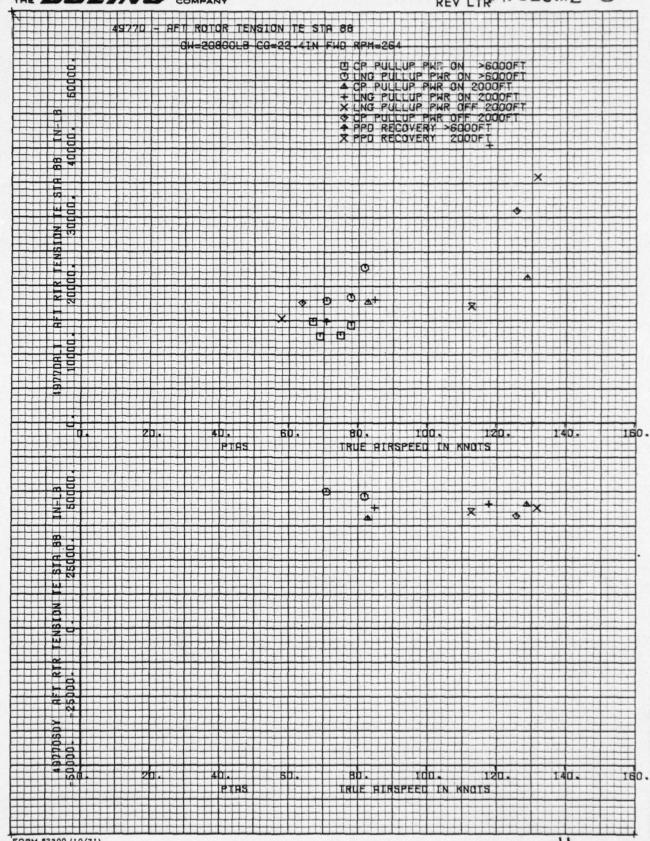
D210-11168-3

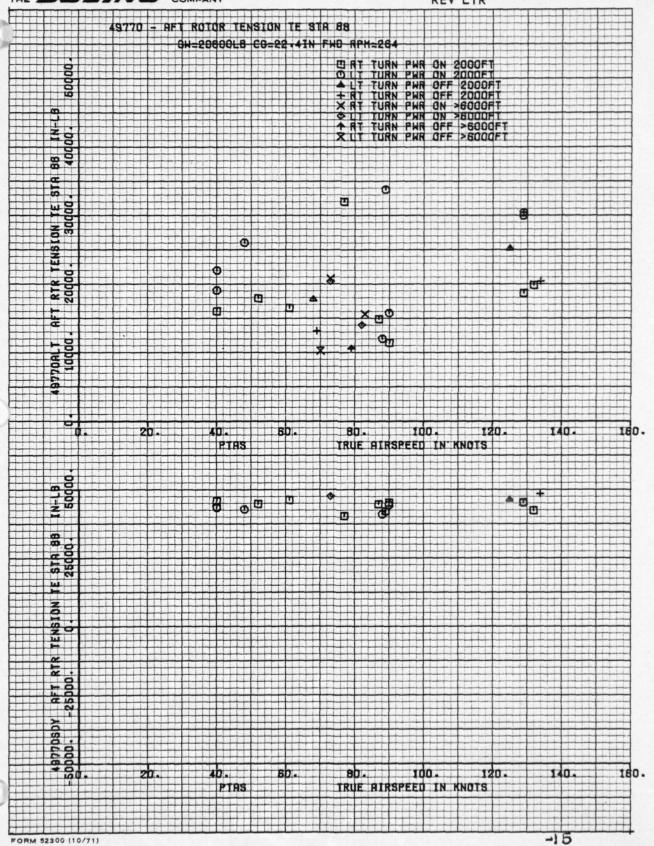
NUMBER! VOLUME 5 REV LTR

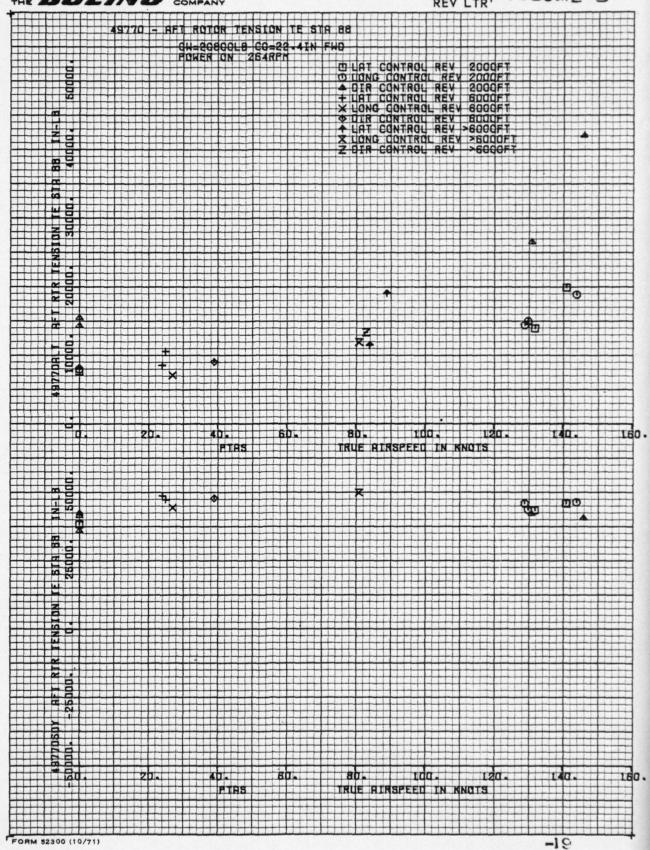


D210-11168-3 NUMBER VOLUME 5



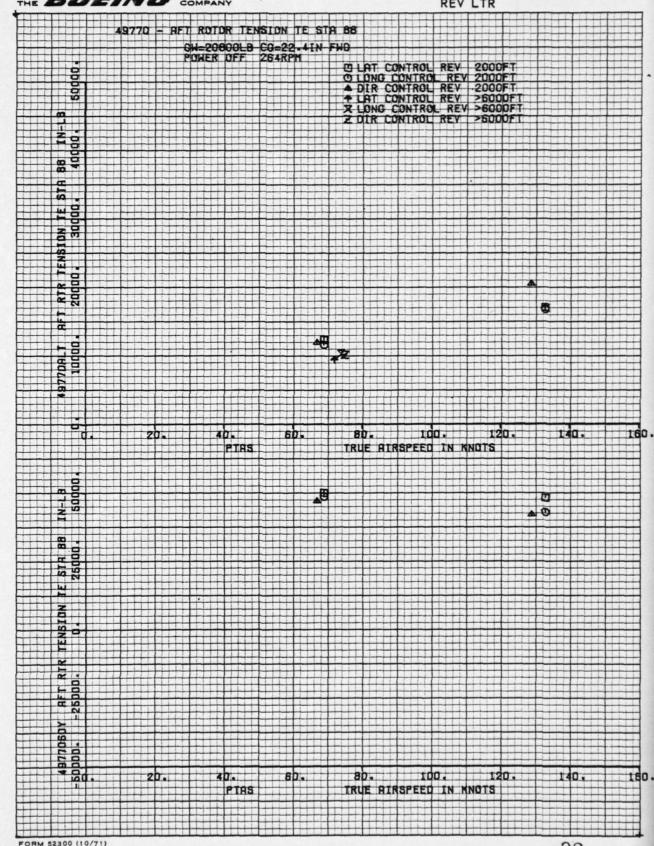






D210-11168-3 NUMBER VOLUME 5

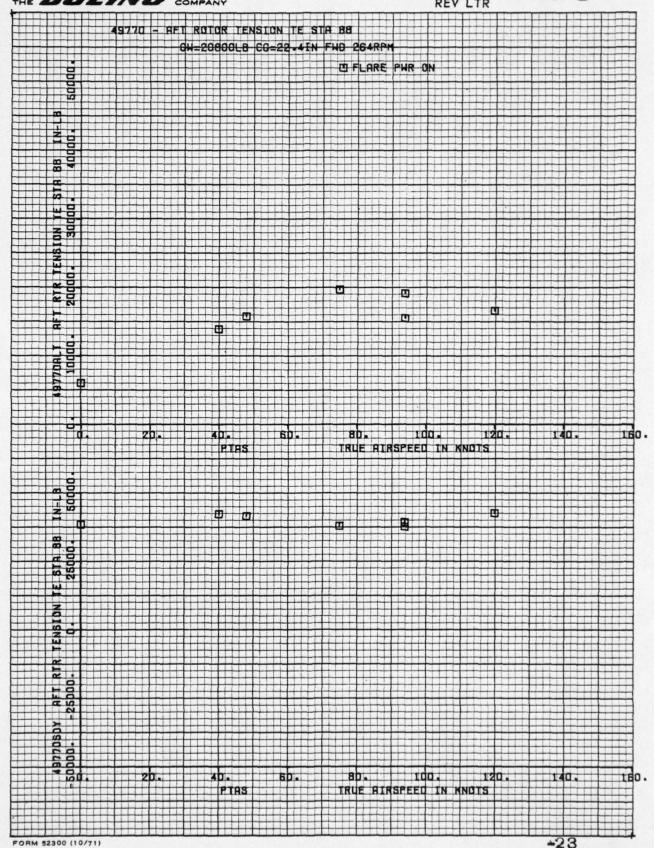
THE BOEING COMPANY

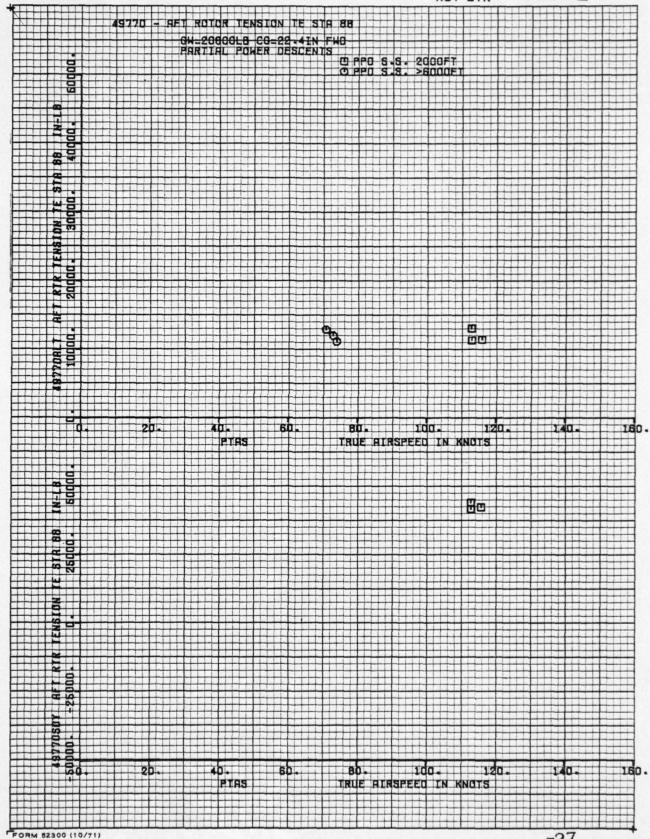


SHEET 61

-23

NUMBER VOLUME 5

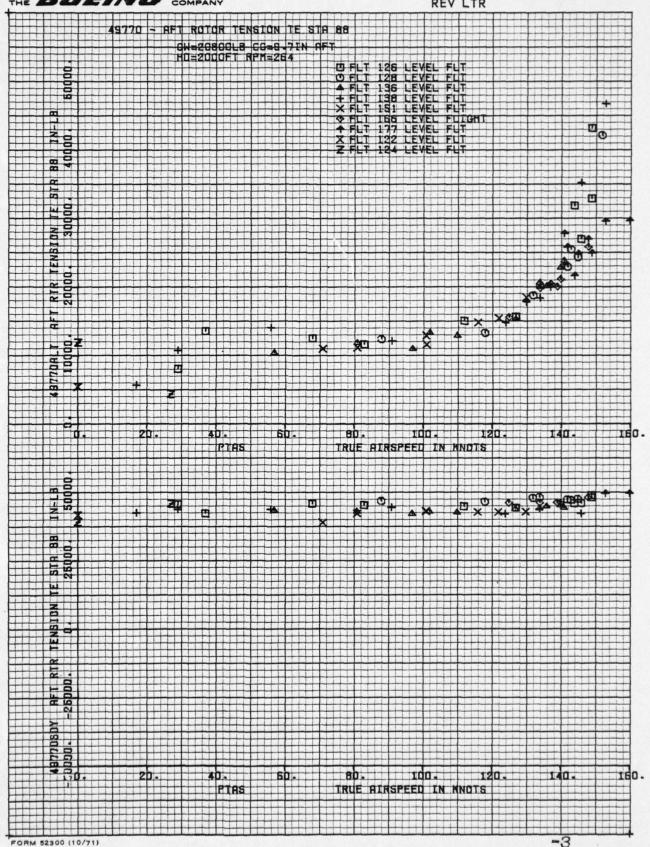




NUMBER | VOLUME 5

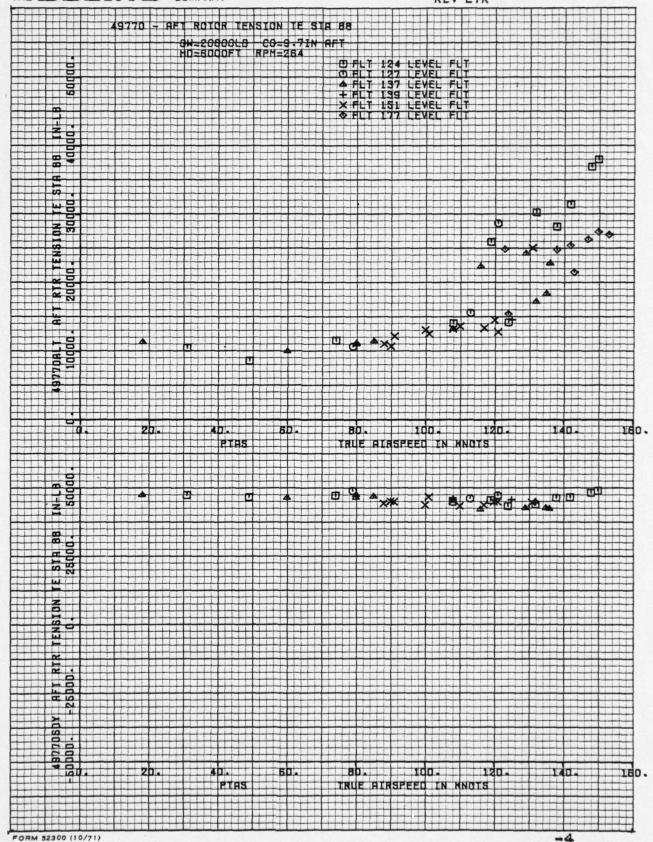
THE BOEING COMPANY

49770 - AFT ROTOR TENSION TE STA 88 GW-20000LB CO-22.4IN FWO AUTOROTATIONAL HANELYER @ AUTOROTATION STEADY >6000FT 3 T RTR TENSION TE 20000. 30000. 20. 40. 80. 100. 120. TEO. PTAS TRUE BIRSPEED IN KNOTS N-L B 50000 STR 88 25000. 160. TRUE RIRSPEED IN KNOTS FORM 52300 (10/71) -27

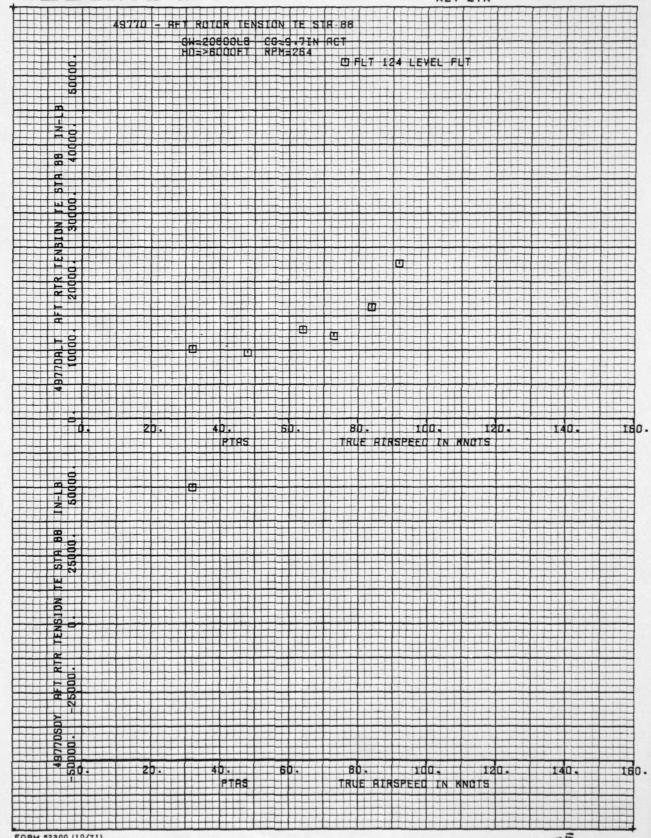


THE BOEING COMPANY

D210-11168-3 NUMBER VOLUME 5



NUMBER VOLUME 5



D210-11168-3 VOLUME 5

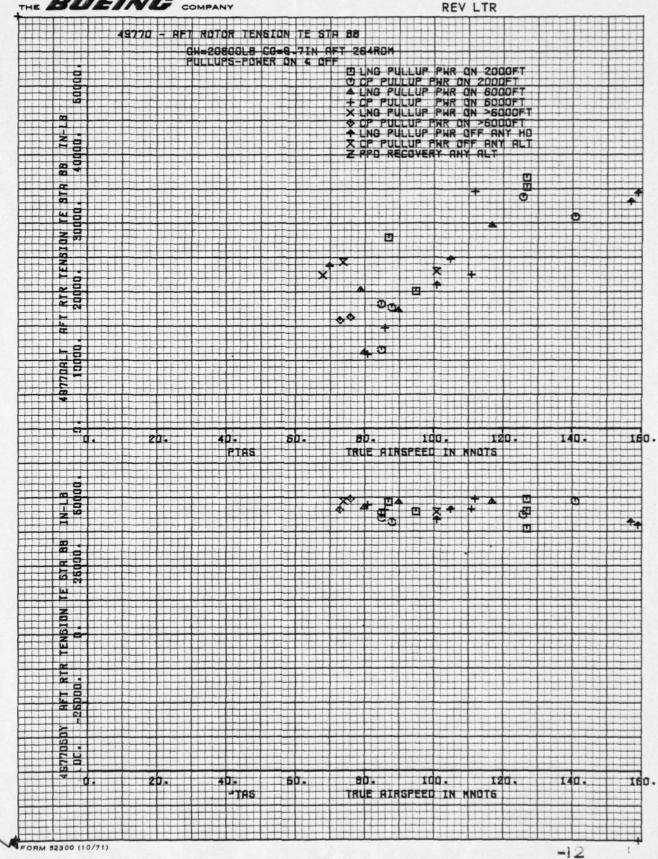
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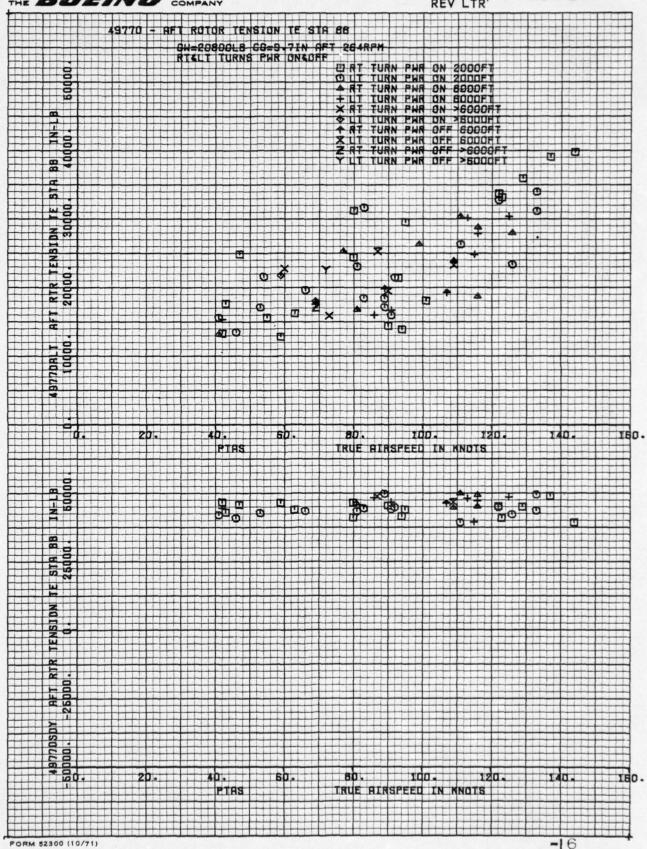
THE BOEING COMPANY 9770 - AFT ROTOR TENSION TE STA 58 20800LB 9:7 IN AFT 248 RPH D LEVEL FLIGHT 6000 FT STA . 30000 20. 40. 50. 80. 100. 120. IED. PTAS TRUE BIRSPEED IN KNOTS 0 STR BB 25000. so. so. voa. IDD. PTAS TRUE AIRSPEED IN KNOTS

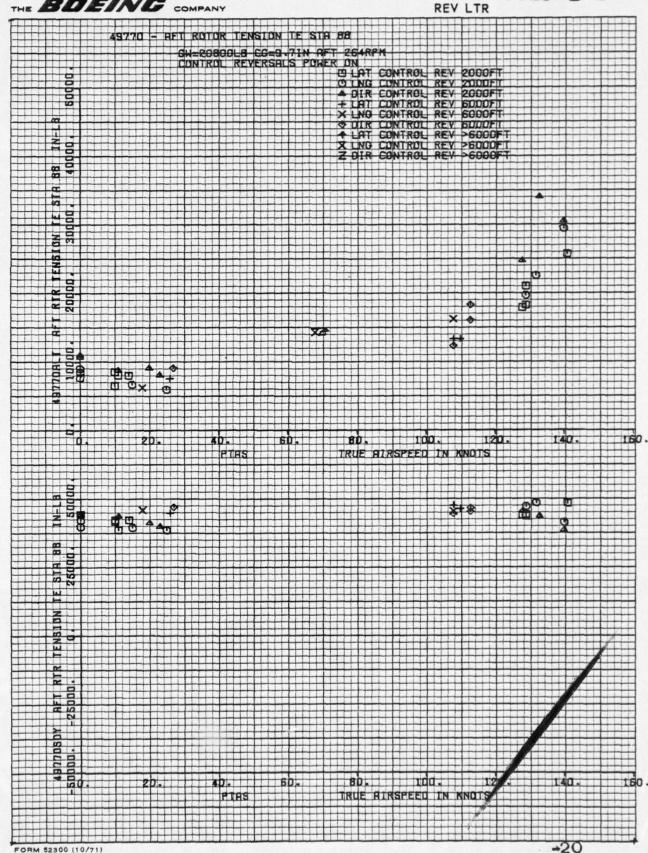
TEORM 52300 (10/71)

D210-11168-3 NUMBER ! VOLUME 5

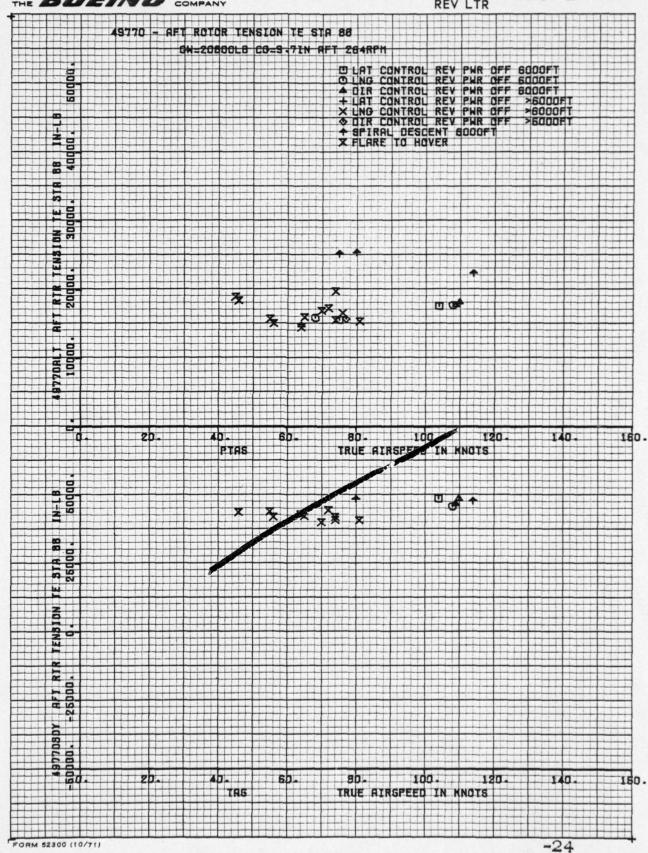
BOEING COMPANY







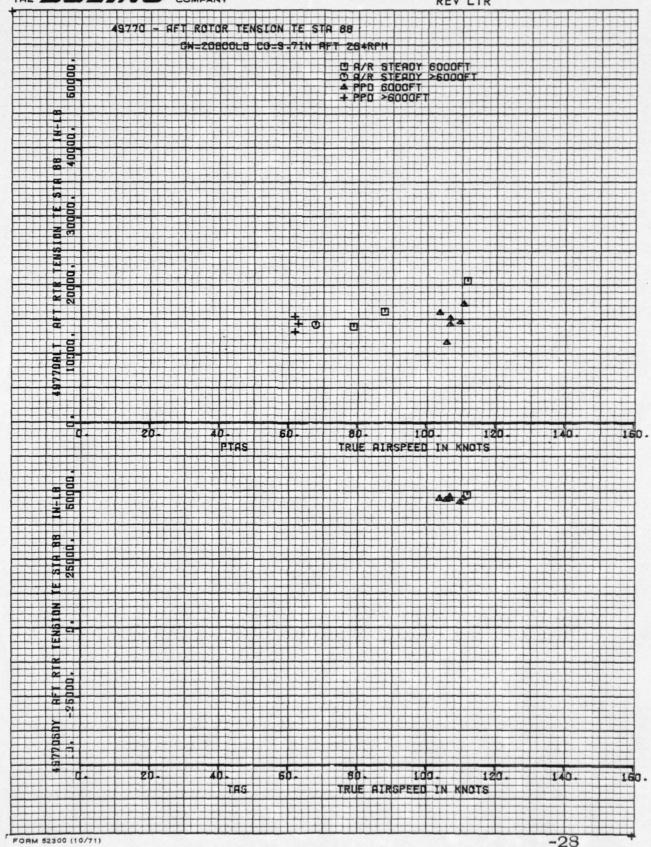
NUMBER VOLUME 5



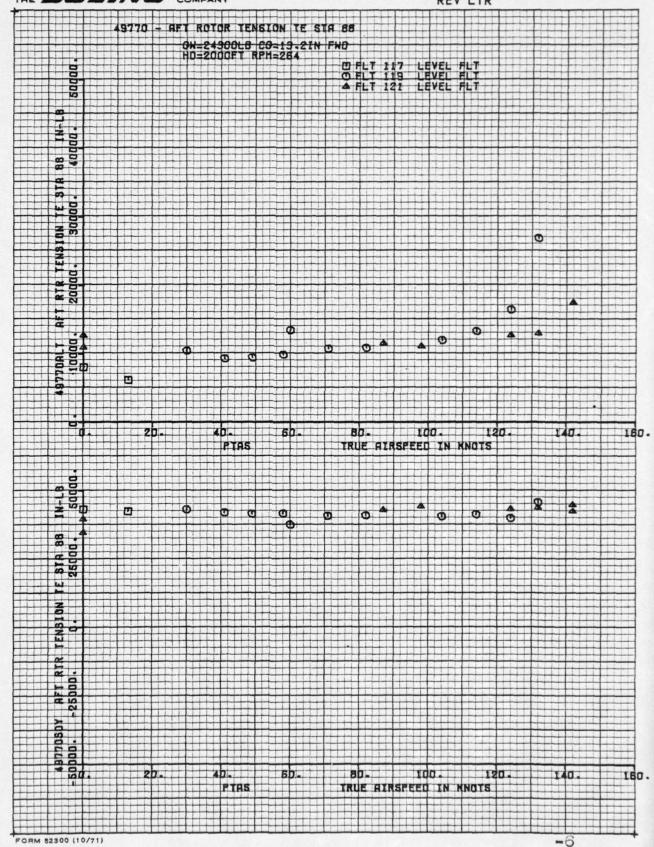
D210-11168-3 NUMBER F VOLUME 5

THE BUEING COMPANY

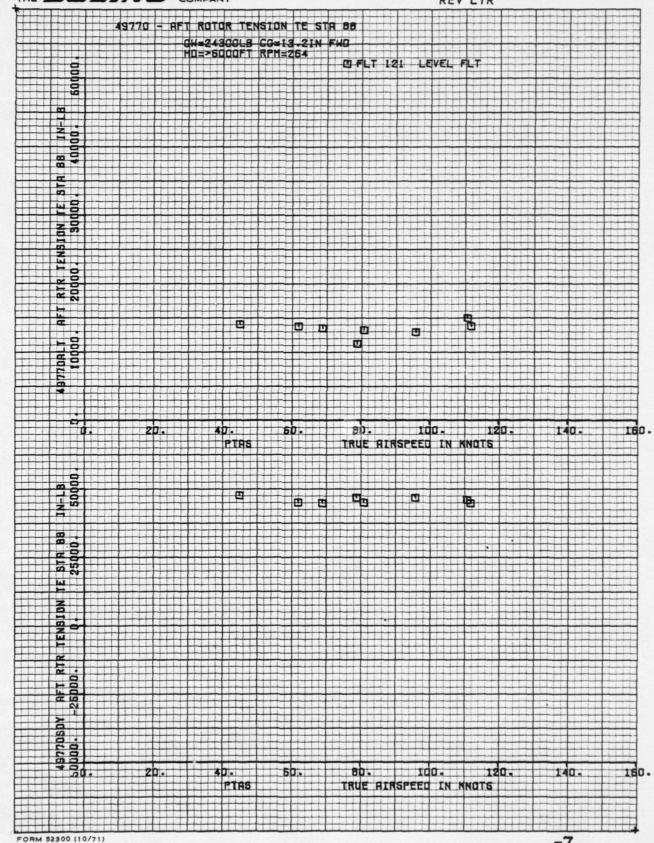
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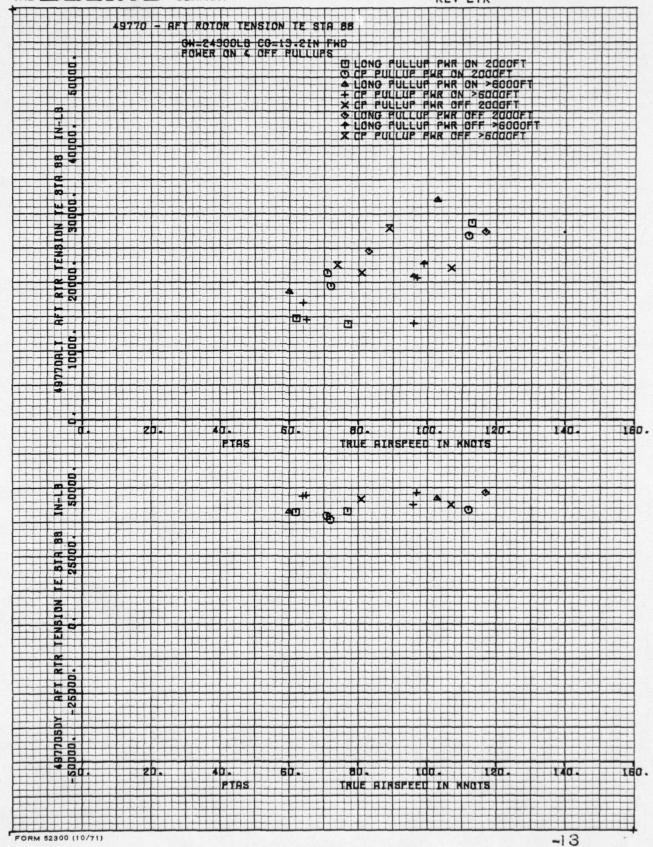


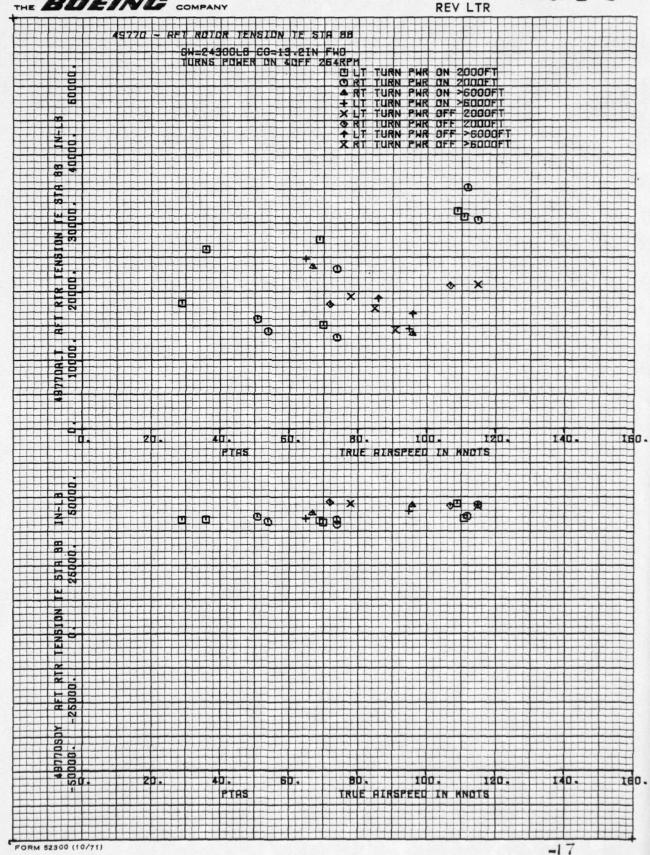
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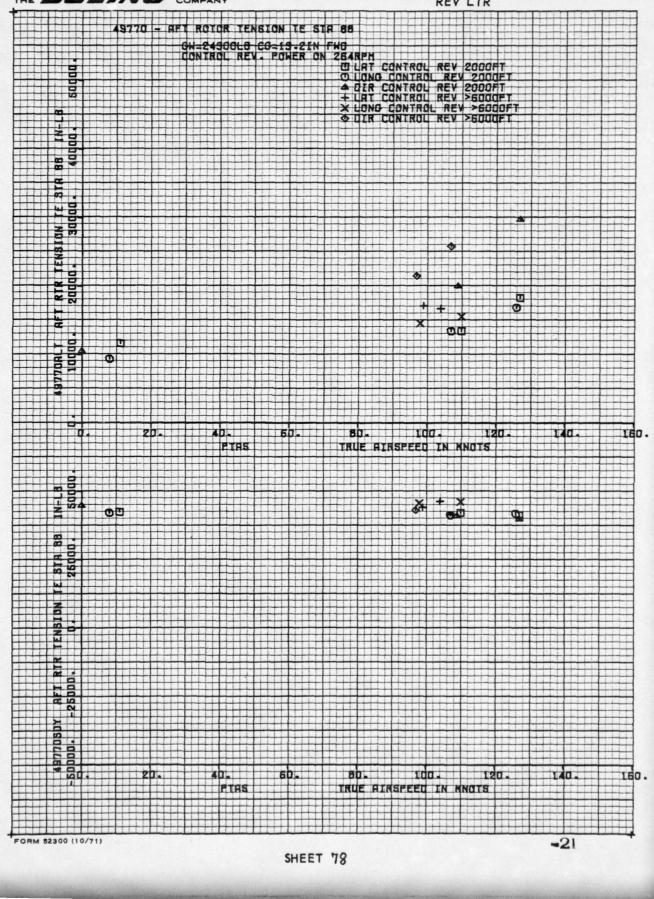
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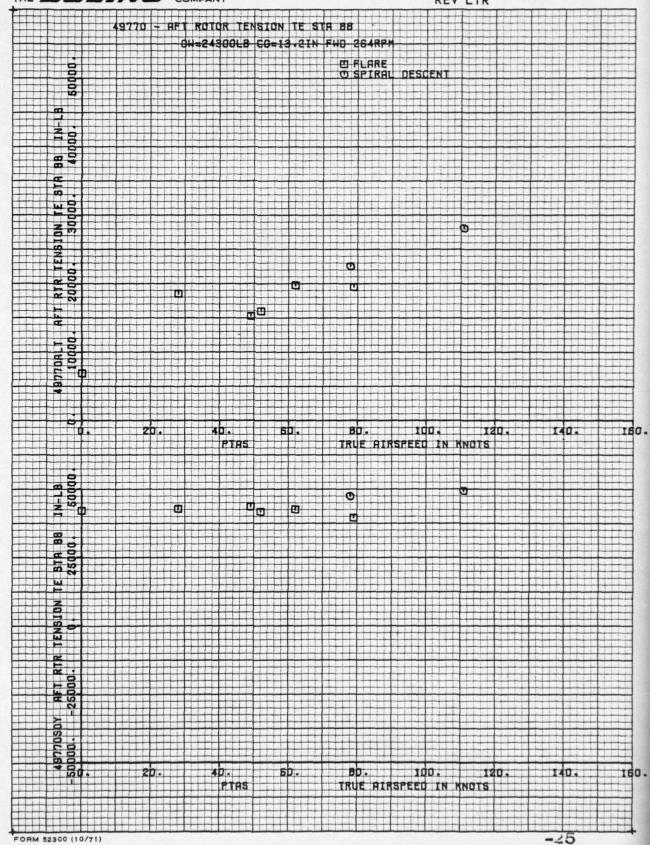




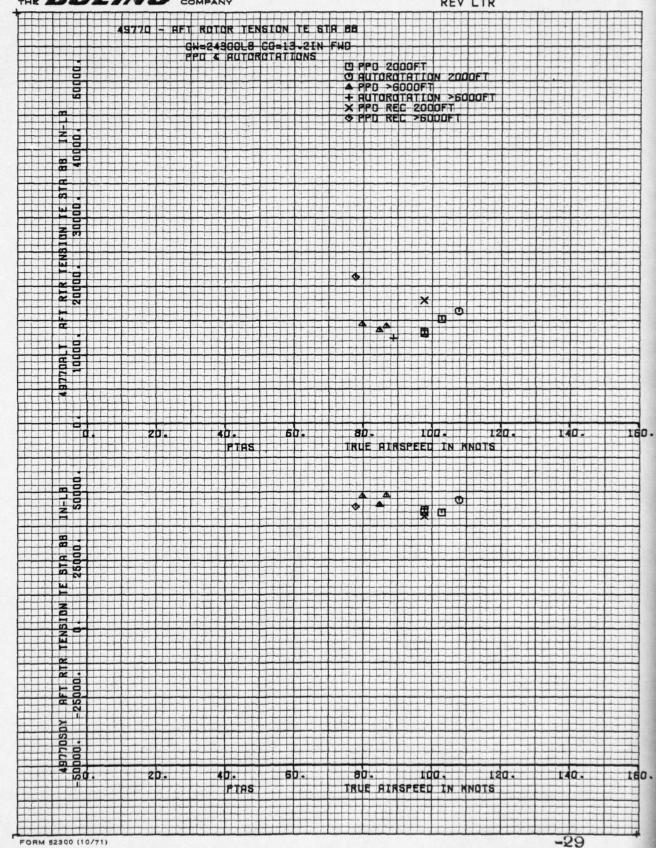


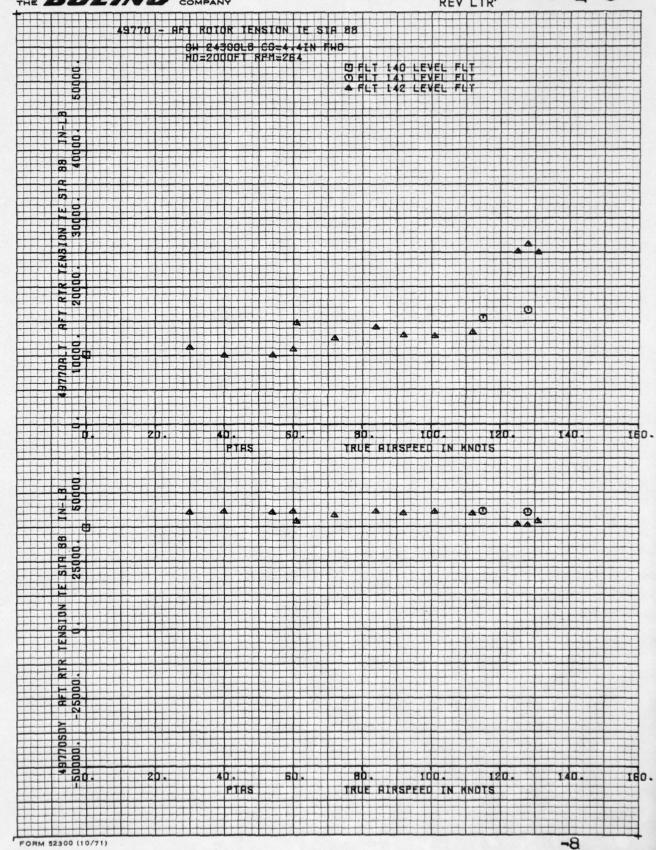
D210-11168-3 NUMBER! VOLUME 5 REV LTR



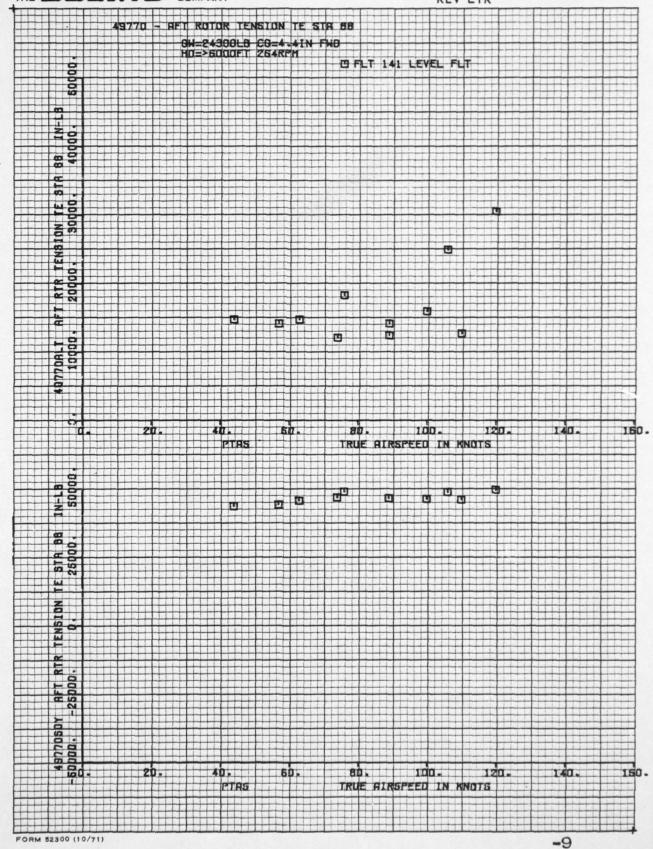


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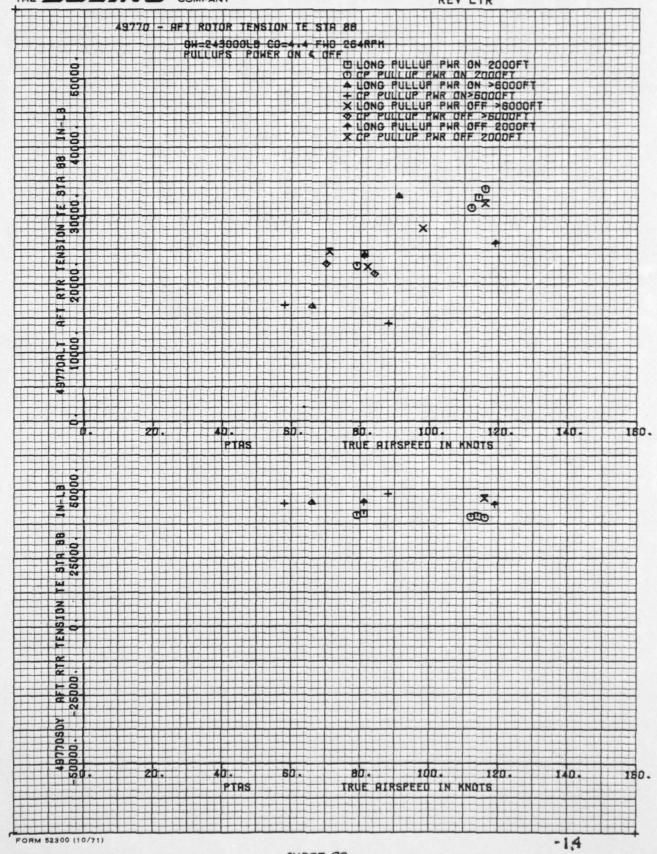


D210-11168-3 NUMBER VOLUME 5 REV LTR

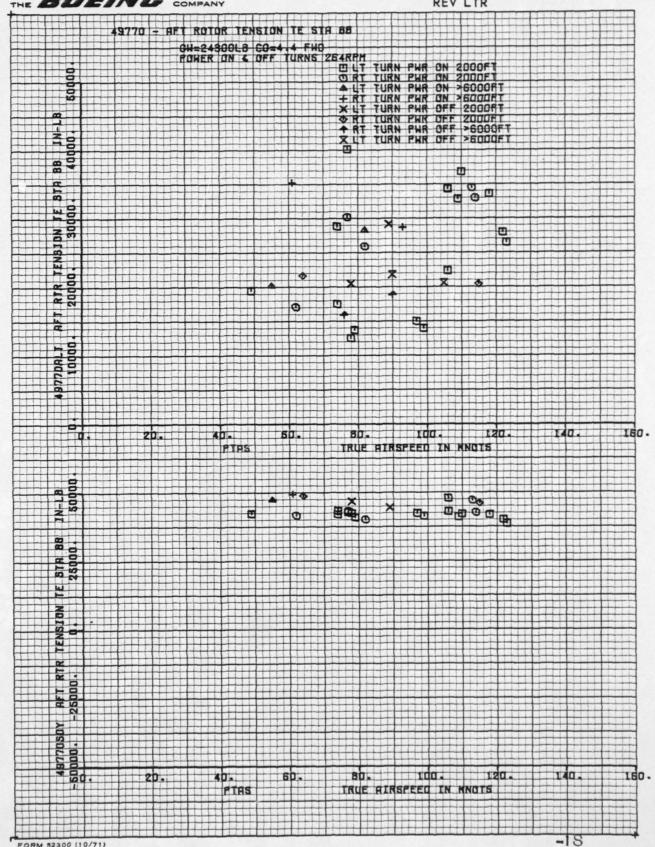


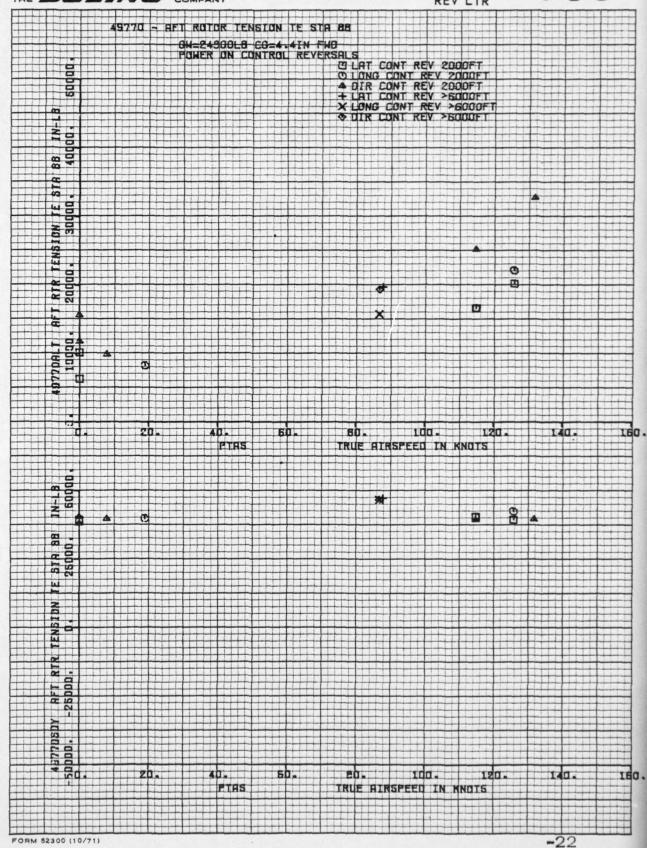
D210-11168-3 NUMBER VOLUME 5 REV LTR



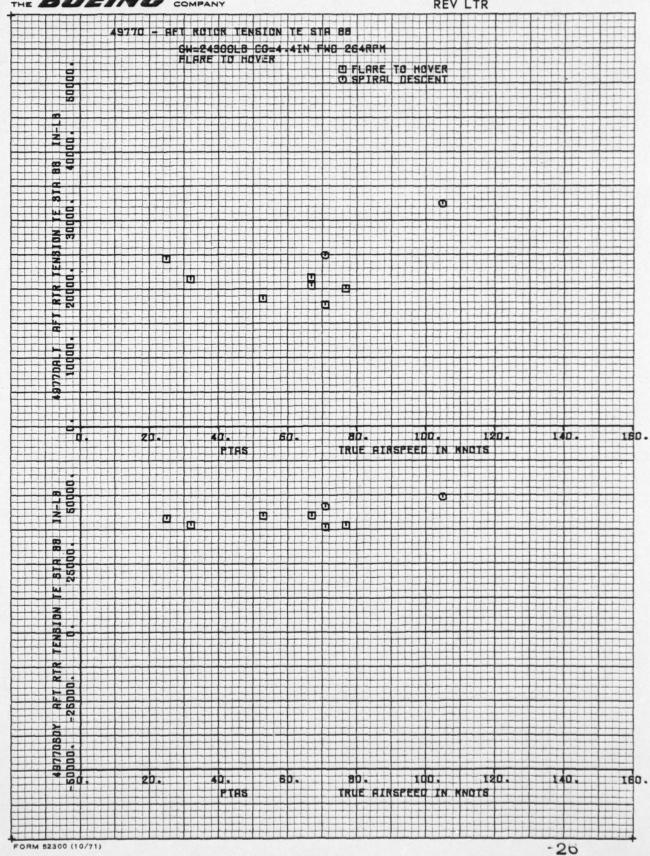


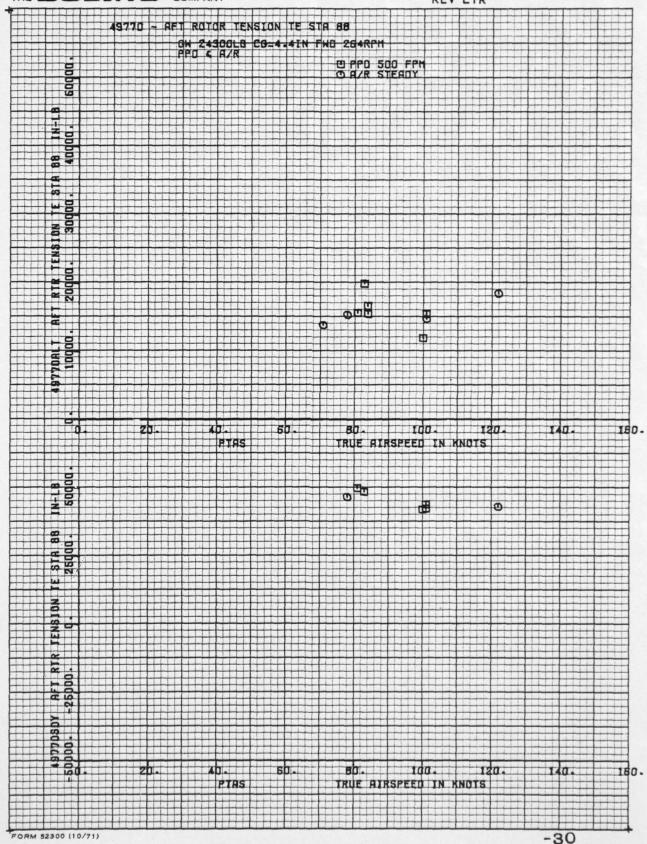
D210-11168-3 NUMBER VOLUME 5



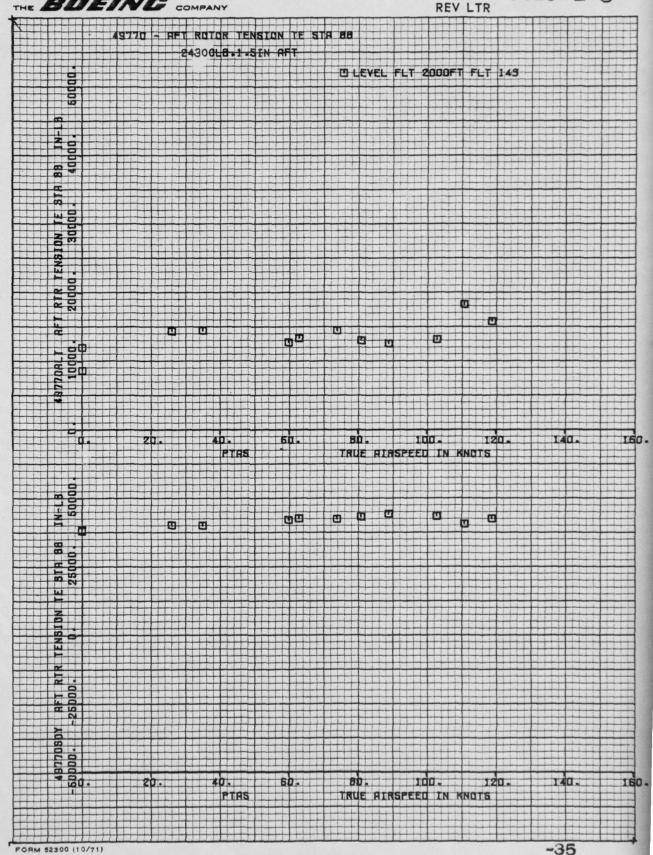


D210-11168-3
NUMBER F.VOLUME 5
REV LTR





D210-11168-3 NUMBER VOLUME 5



PREPARED BY: J. Bendo

NUMBER D210-11168-3 Volume 5 REV LTR

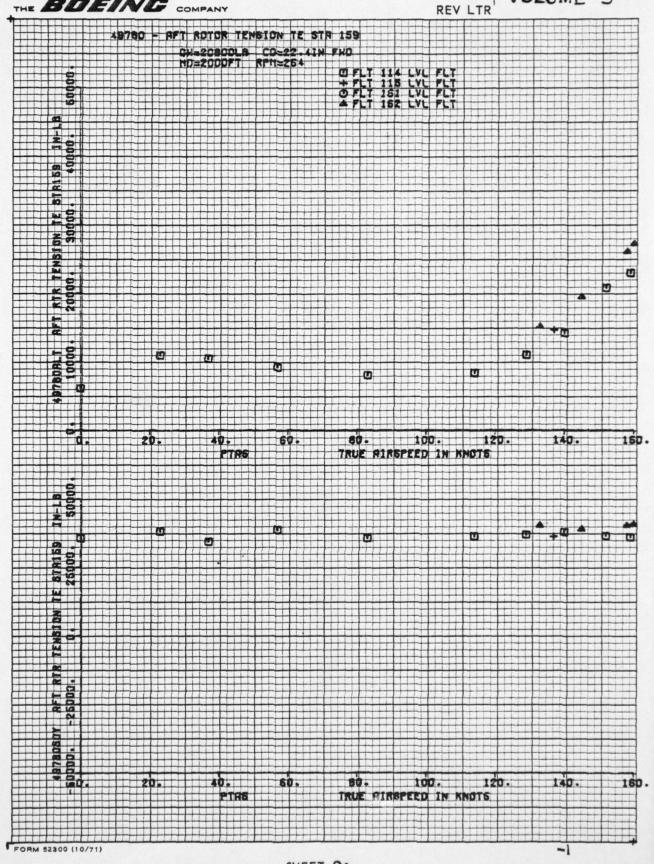
MODEL NO.

THE BOEING COMPANY DATE:

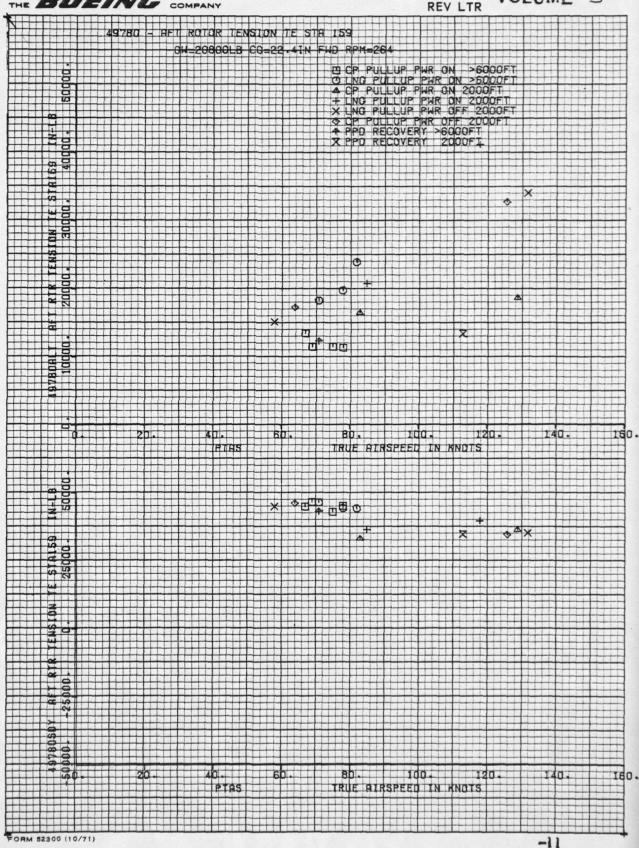
CHECKED BY:

8/28/78

4.3 Aft Blade T.E. Tension Station 159.

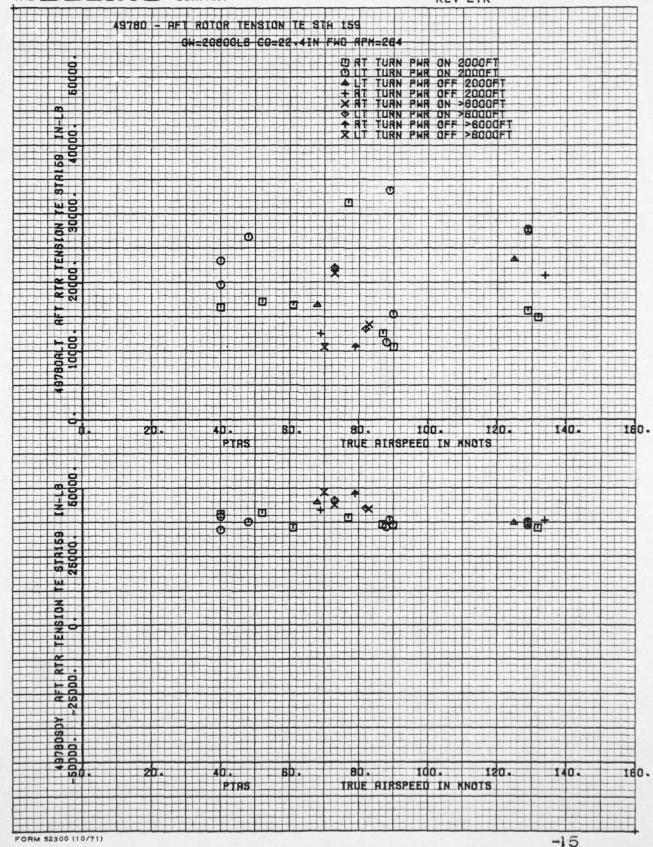


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		3.100																	
				OW=2	080	OLB	CG:	22.4	IN	FWD				-	-		-		-
				H=DP	BOY	E 60	DOFT	RP	M=2	64									
80000	++++		++++	111	-	+++			-	+ F	LT 1	15 LE	MEL F	UT	+	+++	1111	1	1111
9																			
- 6	++++			+++			1			-				11-1	+++	++++	1	11111	++++
10																			
00															++-				
12159 IN-LE																			
11-					-								-		-				-
				1111								1							1111
8																			
00									-		1111								
10																			
0												++++							111
				-										1	1	4444			
															111				
						111													
20				П		111													
211				1111				-			+++	++++			111				
- 00																			
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	++++			1111	1										1		HIII		HII
RTR TENBION TE ST 20000-			111		11							1			1	1111			
HE	1111			HII											H				
22					1			1				+++	1111		111	1111			
																			HIII
- E								+++							111	1111			
	1111				-		HIII								+				
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1 5 5	++++	11111	++++	1111	+++		1			+++	+ 4	++++	1111	+++	+++		-		+++
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3		20	3.		40			50.		8).		do.		12	0.	14	σ.	
	•	20	3.		40	TOS		50.		8). F 91	1 RSPEE	DD.	KNIG	12	0.4	14	a.	
	•	20	3.		4D	TRS		50.		BI	D. E AI	1 RSPEE	CO.	KNO	12	0.	14	0 -	,
		20	3.		4D	TAS		50.		BI	D. E AI	1 RSPEE	DD- D IN	KNO	12	0.=	14	a.	
	•	20	J.		40 P	TAS		50.		BI	D. E SI	RSPEE	CO.	KNO	12 (S	0-	12	0-	
	•	20	J		AD P	TRS		so.		B) TRU	J. E AI	1 RSPEE	do.	KNO	12	0.	12	0-	
	•	20	3		AQ.	TAS		50.		TRU	D. E SI	1 RSPEE	D IN	KNO	12 rs	0-		0-	
	•	20	3		40 P	198		50.		TRU	E AI	RSPEE	DO-	KNC	12	0-	12	0-	
	•	20			AQ.	TAS		50.		TRU	E AI	RSPEE	DO- D IN	KNO	12 rs	0-	12	10 -	
IN-LB 50000-	•	20			43.	TAS		50.		TRU	E AI	RSPEE	D IN	KNO	12 IS	0.		0.	
IN-LB 50000-	•	20	I.a.	+	4D	TAS		30.		TRU	E AI	RSPEE	CO.	KNO	12 IS	0.	12	10-	
IN-LB 50000-	•	2	J.a.	+	40	TAS		39.		TRU	E AI	RSPEE	do- c in	KNO	12 rs	0.	114	10-	
IN-LB 50000-		20			#Q	188		50.		TRU	E AI	RSPEE	do- d In	KNO	12 IS	0.	12	0.	
IN-LB 50000-	•	20	J.	•	#2:	TAS		50.		TRU	E AI	RSPEE	DD LN	KNO	12 (S	0.	14	0.	
STA159 IN-L8 26000.		20	•		40 P	TAS		50.		TRU	E AI	RSPEE	DO - IN	KNO	12	0.		0-	
IN-LB 50000-	•	20	1	•	40 P	TAS		30.		TRU	E AI	RSPEE	D IN	KNO	12	0.		0.	
TE STRISB IN-LB		20	J.a.	+	40 P	TSS		50.		TRU	E AI	RSPEE	do- d IN	KNO	12	0.	14	0.	
TE STRISB IN-LB	•	20	4	+	40 P	THS		50.		TRU	E AI	RSPEE	do. D IN	KNO	12	0.4		0.	
TE STRISB IN-LB	•	20		*	P	TAS		50.		TRU	E AI	RSPEE	do- c in	KNO	12	0.	12	0.	
TE STRISB IN-LB	•	20	3.	•	P	TAS		50.		TRU	E AI	RSPEE	do.	KNO	12	0.	14	0.	
TE STRISB IN-LB	•	20	J.		40x	THS		50.		TRU	E AI	RSPEE	do- d IN	MNO	12	0	14		
TE STRISB IN-LB		20	J.	•	40 P	TAS		550.		TRU	E AI	RSPEE	OO-	MNO	12	0.4		10 -	
TENSION TE STRISS IN-LB	•	20	J.		40	TAS		550.		TRU	E AI	RSPEE	do- c in	MNO	12	0.	12	0.	
TENSION TE STRISS IN-LB	•	20	3.	•	40	TRS +		80.		TRU	E AI	RSPEE	do- n in	KNO	12	0	14	0.	
TR TENSION TE STAIS9 IN-LB 50000.		20	3 •	•	40 P	+		50.		TRU	E AI	RSPEE	OO - C IN	KNOT	121	0.	14		
TR TENSION TE STAIS9 IN-LB 50000.	•	20		•	40 P	TAS		50.		TRU	E AI	RSPEE	do- c in	KNO	121	0.			
T RTR TENSION TE STRISS IN-LB		20	J.		40 P	TRS		550.		TRU	E AI	RSPEE	do_ g IN	KNO	121	0.		0.	
PETT RITE TENSION TE STRISB IN-LB	•	20		•	P	THIS +		80.		TRU	E AI	RSPEE	do- n in	KNO	12	0			
PETT RITE TENSION TE STRISB IN-LB		20		•	40	TAS		50.		TRU	E AI	RSPEE	OO - C IN	KNO	121	0.			
PETT RITE TENSION TE STRISB IN-LB					40 P	TAS		550.		TRU	E AI	RSPEE	do- c in	KNO	12	0.			
PETT RITE TENSION TE STRISB IN-LB	•	20	3.		400	TRS		50.		TRU	E AI	RSPEE	CO _ IN	KNO	12)	0.		0.	
PETT RITE TENSION TE STRISB IN-LB		20			40	TAS +		80.		TRU	E AI	RSPEE	OO - IN	KNO	12	0.			
PETT RITE TENSION TE STRISB IN-LB		20			41	TAS		50.		TRU	E AI	RSPEE	do- c in	KNO	12	0.			
PETT RITE TENSION TE STRISB IN-LB			•							TRU	F 81	NSPEE	DIN	KNO					
PETT RITE TENSION TE STRISB IN-LB					40			30.		TRU	E AI	NSPEE	do- n in	KNO	1213		12		
PETT RITE TENSION TE STRISB IN-LB			•		40					TRU	+ + -	NSPEE	D IN	KNOT	121				
T RTR TENSION TE STRISS IN-LB	•		•		40			30.		TRU	+ + -	NSPEE	D IN	KNOT	121				
PETT RITE TENSION TE STRISB IN-LB			•		40			30.		TRU	+ + -	NSPEE	D IN	KNOT	121				
PETT RITE TENSION TE STRISB IN-LB	•		•		40			30.		TRU	+ + -	NSPEE	D IN	KNOT	121				

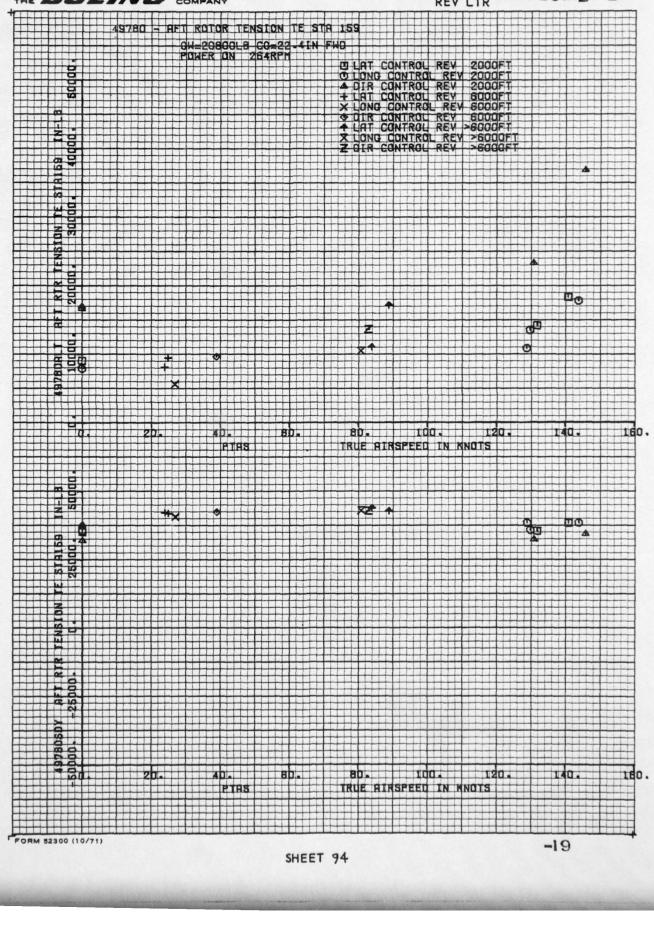


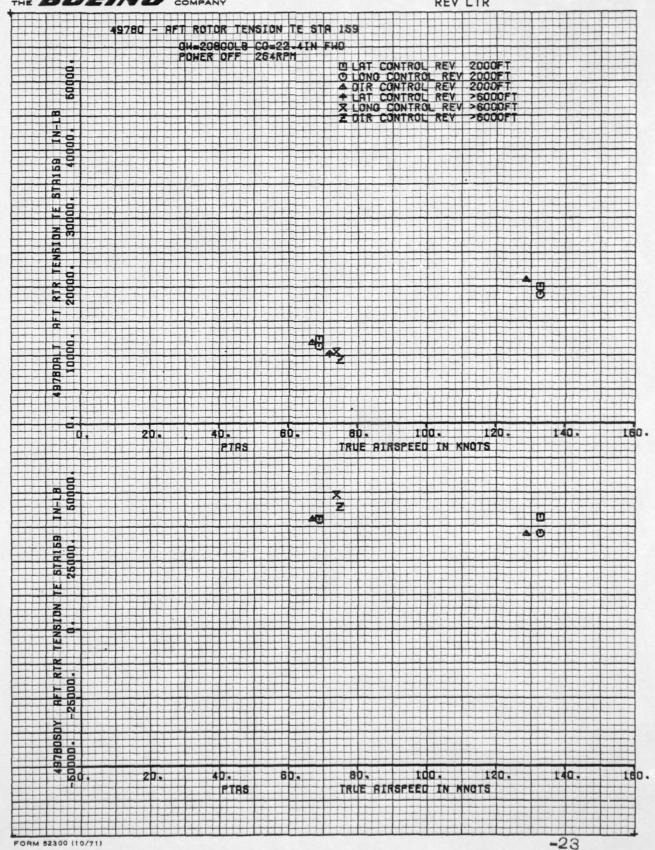
D210-11168-3 NUMBER F VOLUME 5 REV LTR

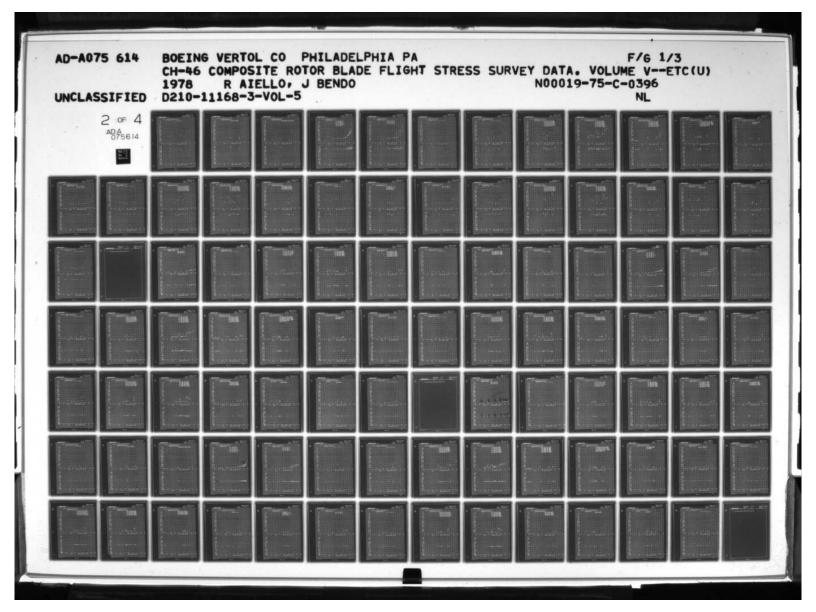


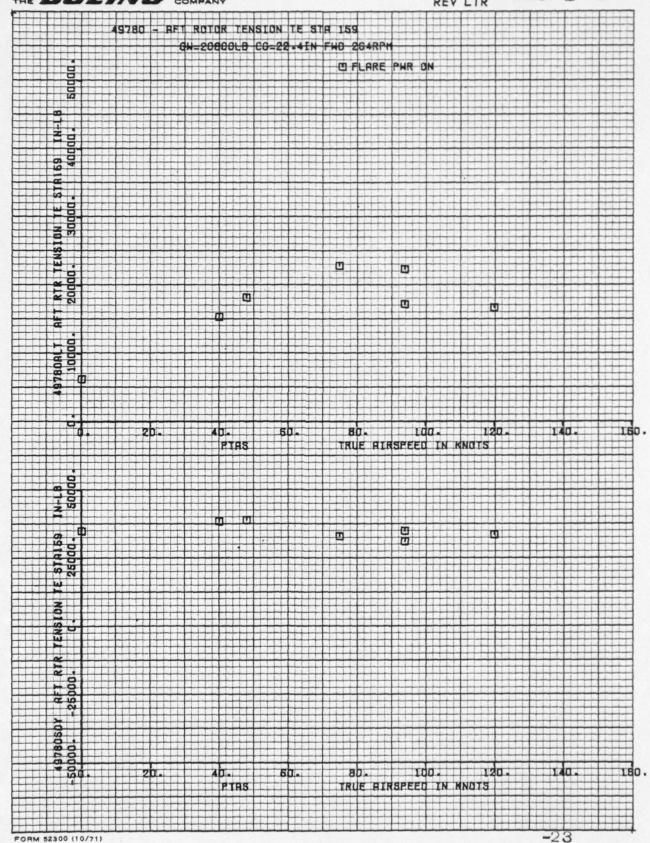


D210-11168-3 NUMBER VOLUME 5 REV LTR

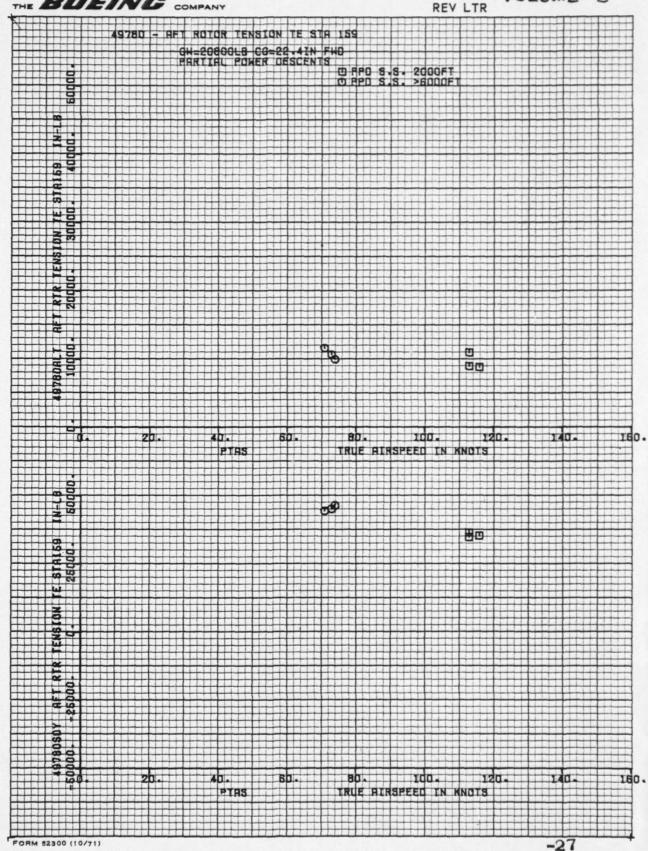




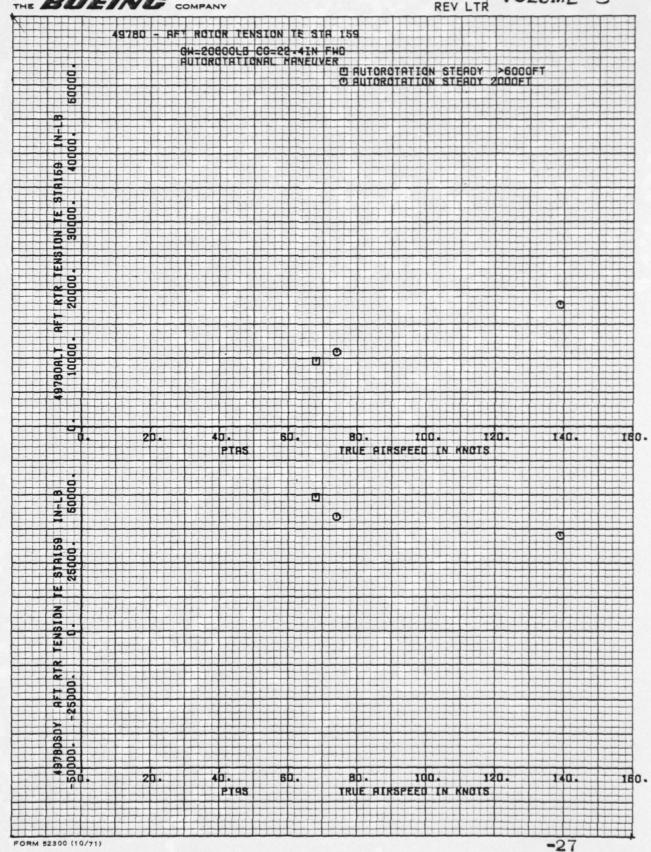




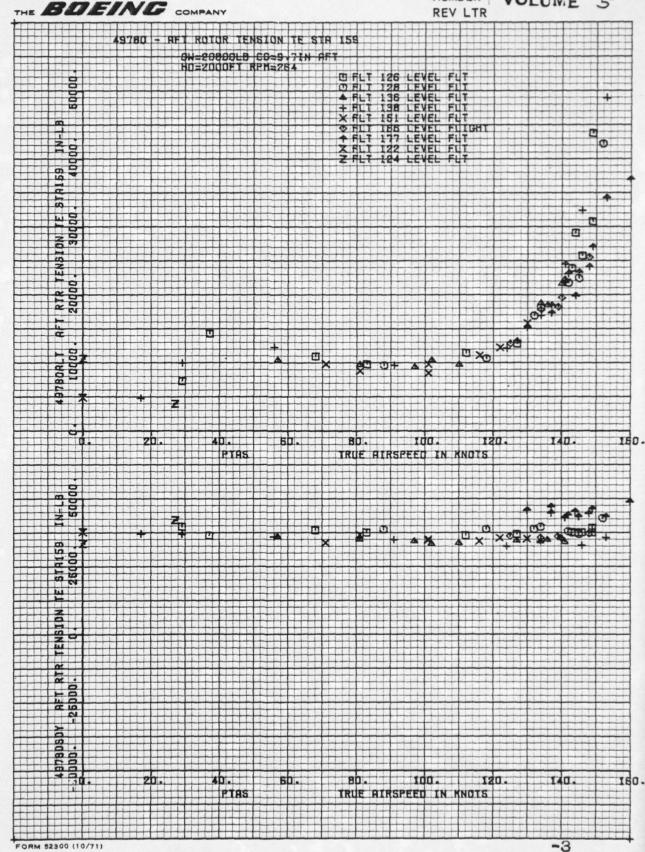
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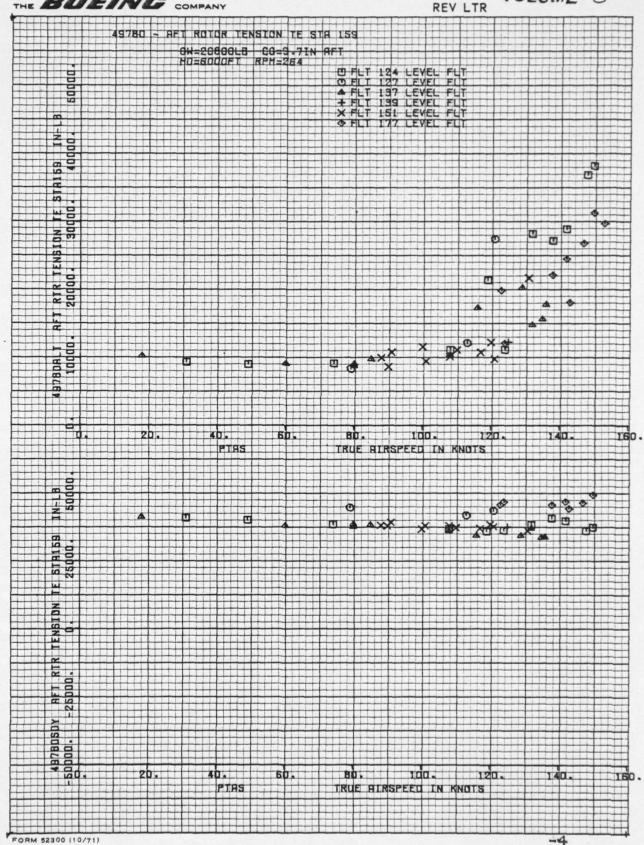


D210-11168-3 NUMBER! VOLUME 5 REV LTR



D210-11168-3 NUMBER | VOLUME 5





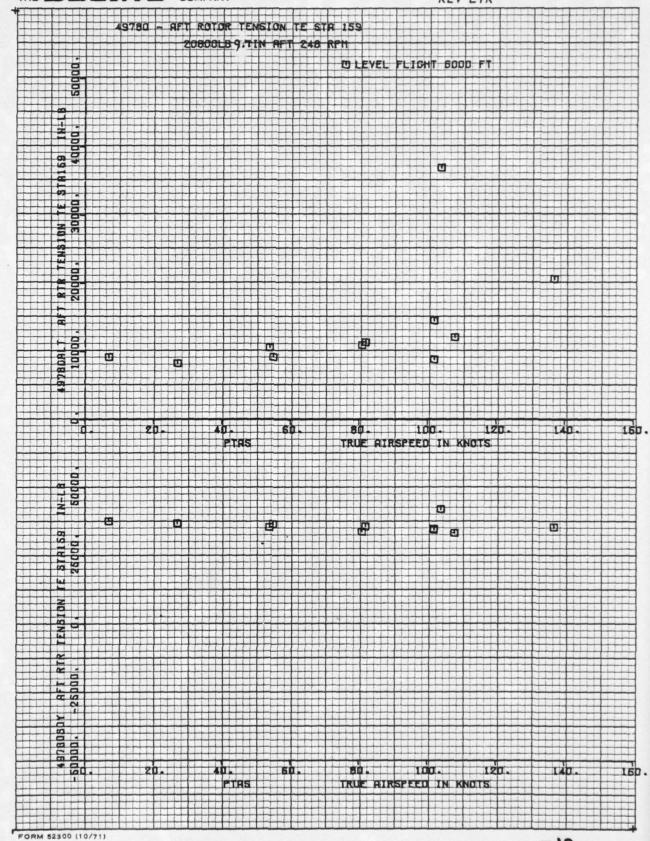
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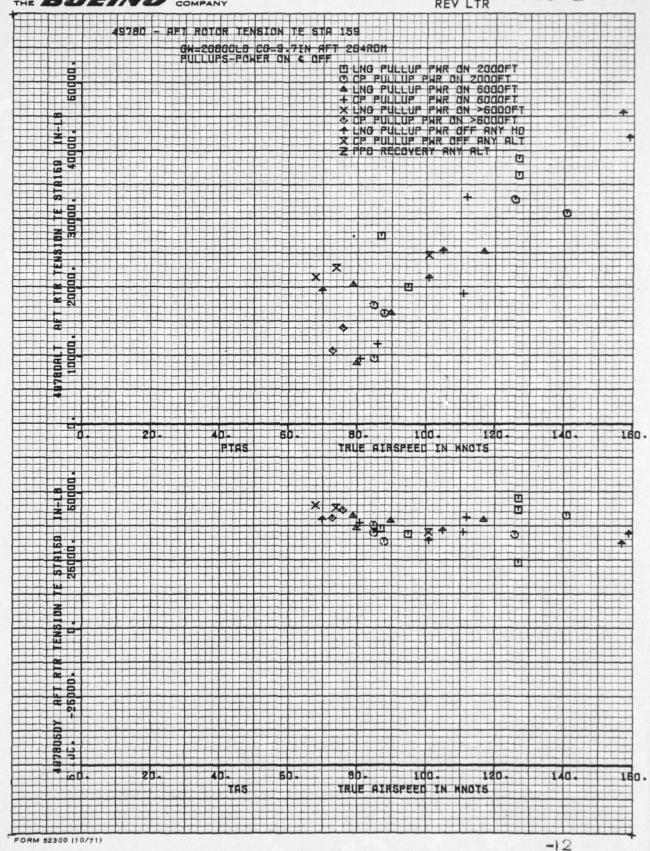
THE BOEING COMPANY

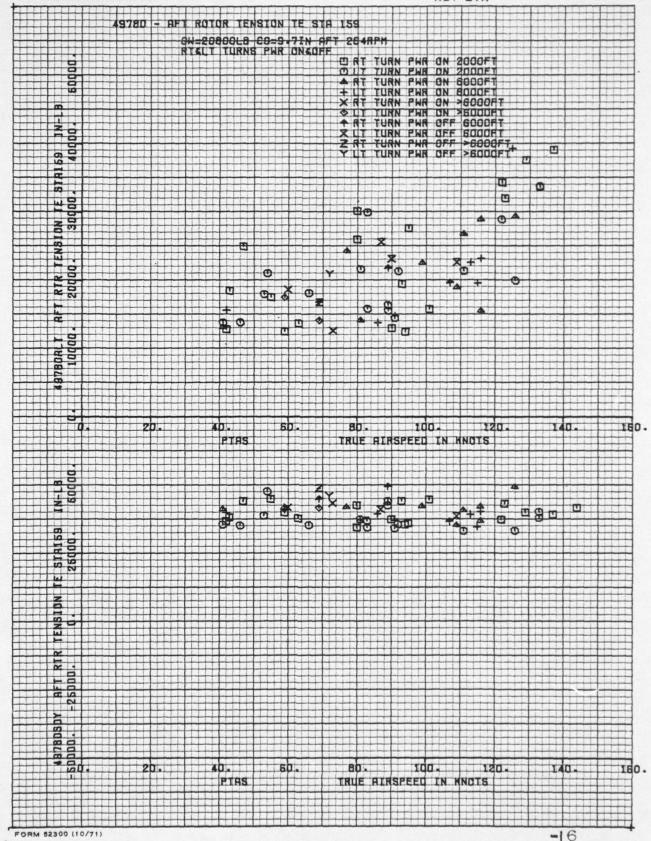
9780 - AFT ROTOR TENSION TE STA 159 D FLT 124 LEVEL FUT BN TE OGO TENSID 10000. 2000 20. AD. SD. BD. 100. 120. 140. 180 . IN-LB S0000. STR159 25000. R TENSION T 80. 100. 120. 180. TRUE AIRSPEED IN MNOTS FORM 52300 (10/71) -5

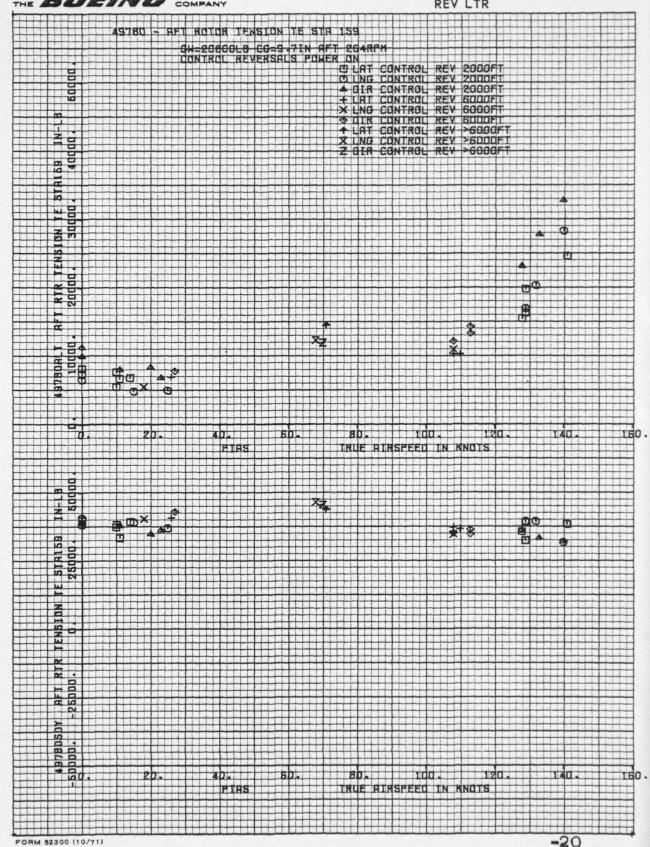
D210-11168-3 VOLUME 5

NUMBER REV LTR

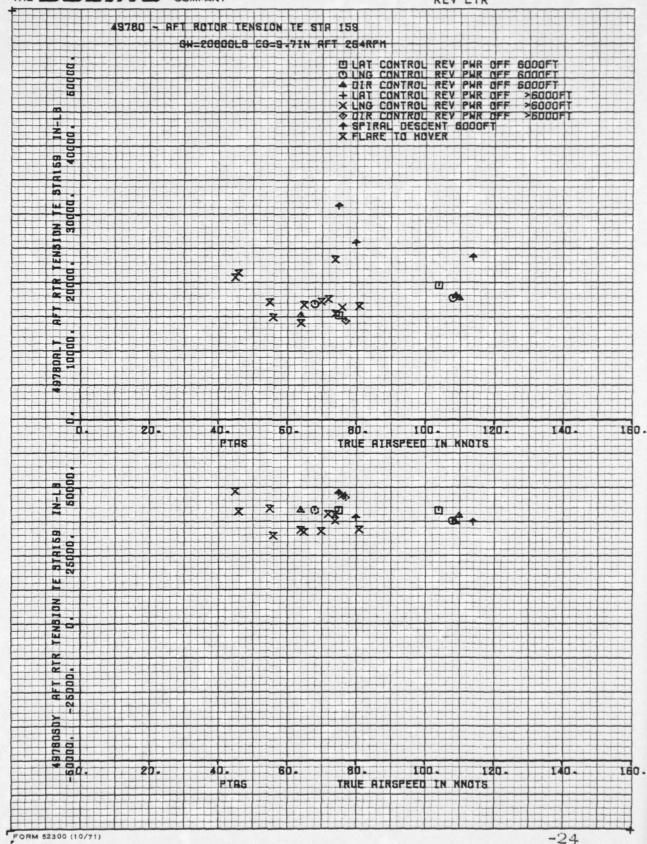




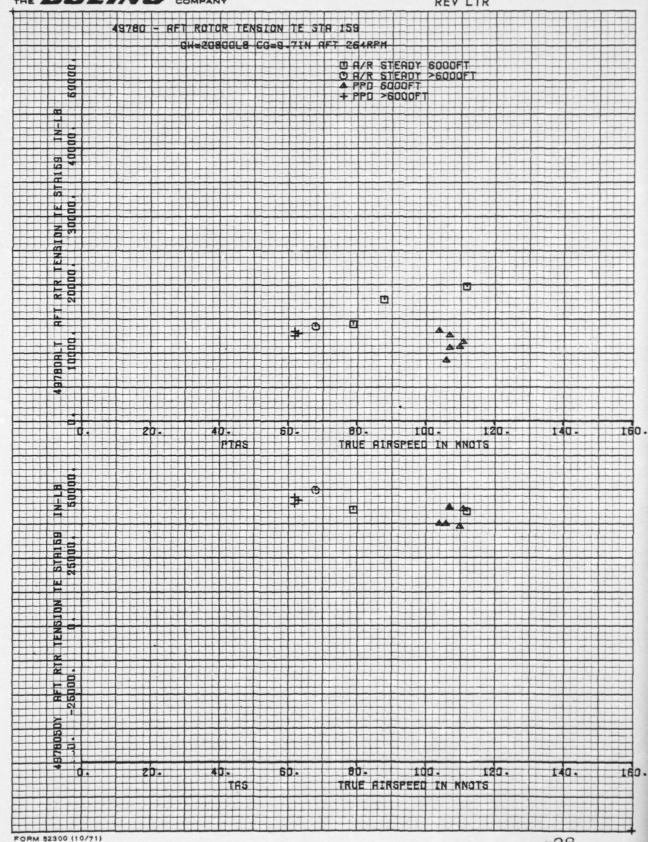




NUMBER NOLUME 5



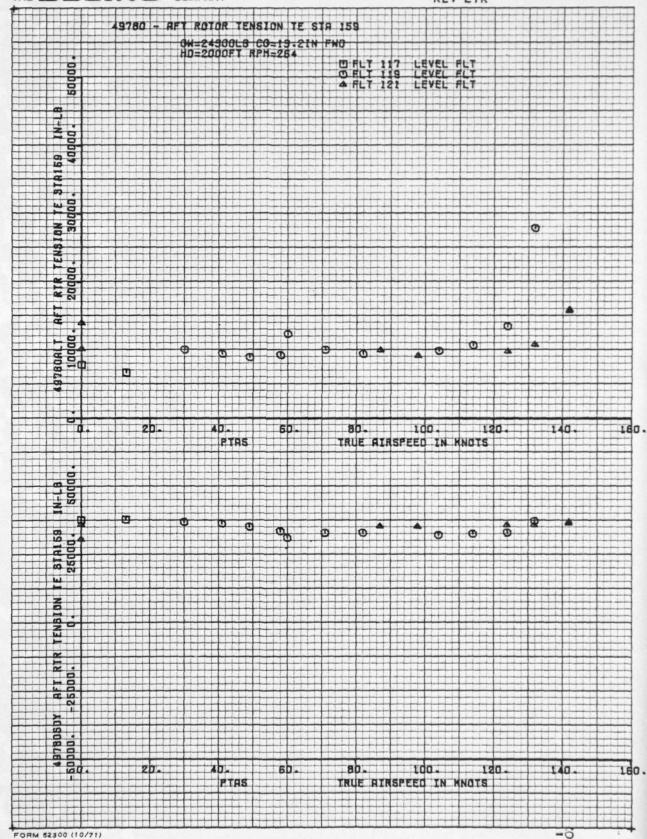
D210-11168-3 NUMBER ! VOLUME 5 REV LTR



D210-11168-3 NUMBER VOLUME 5

THE BOEING COMPANY

0



D210-11168-3

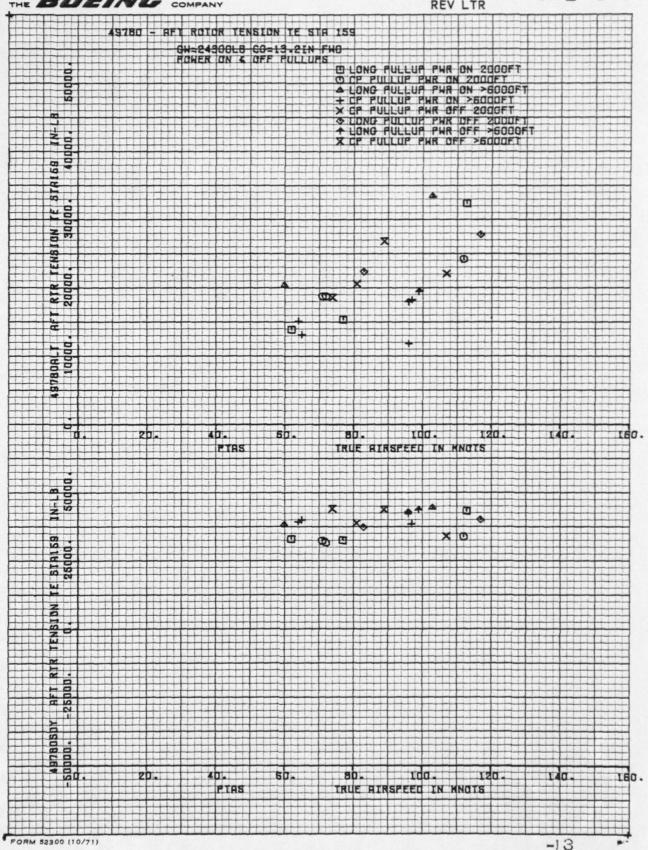
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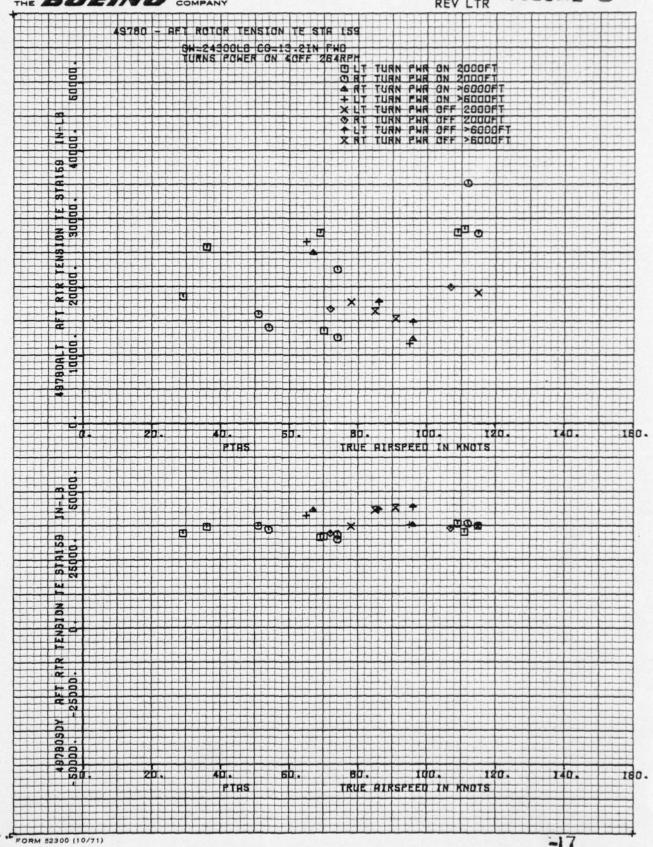
NUMBER ' VOLUME 5 THE BOEING COMPANY REV LTR 9780 - AFT ROTOR TENSION TE STA 159 GH=24300LB GG=13.2IN FWD HD=>6000FT RPM=264 D FLT 121 LEVEL FLT A159 8 . 벌용 u STRISB IN-LB 20. 40. 50. 80. 100. 120. PIRS TRUE AIRSPEED IN MNOTS 140. 160. T ш TENSID 80. 100. 40. 120. 140. 150. PTAS TRUE AIRSPEED IN MNOTS

4/2

FORM 52300 (10/71)

1





D210-11168-3 NUMBER VOLUME 5

-21

THE BOEING COMPANY

REV LTR 49780 - AFT ROTOR TENSION TE STA 159 ON-24900LB CO-19.2IN FWO CONTROL REV. POWER ON 264RPH ### CONTROL REV 2000FT

O LONG CONTROL REV 2000FT

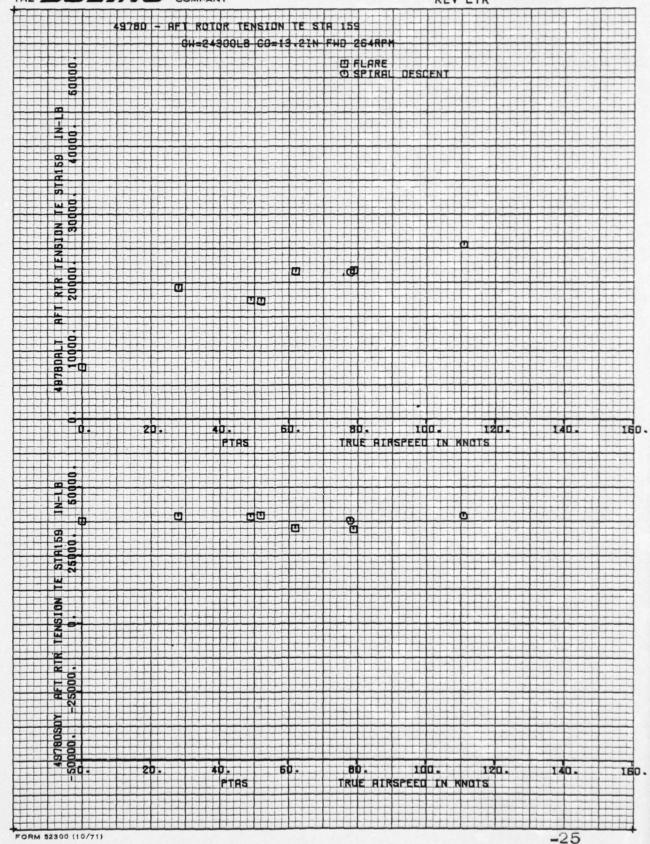
O LONG CONTROL REV 2000FT

LAT CONTROL REV >6000FT

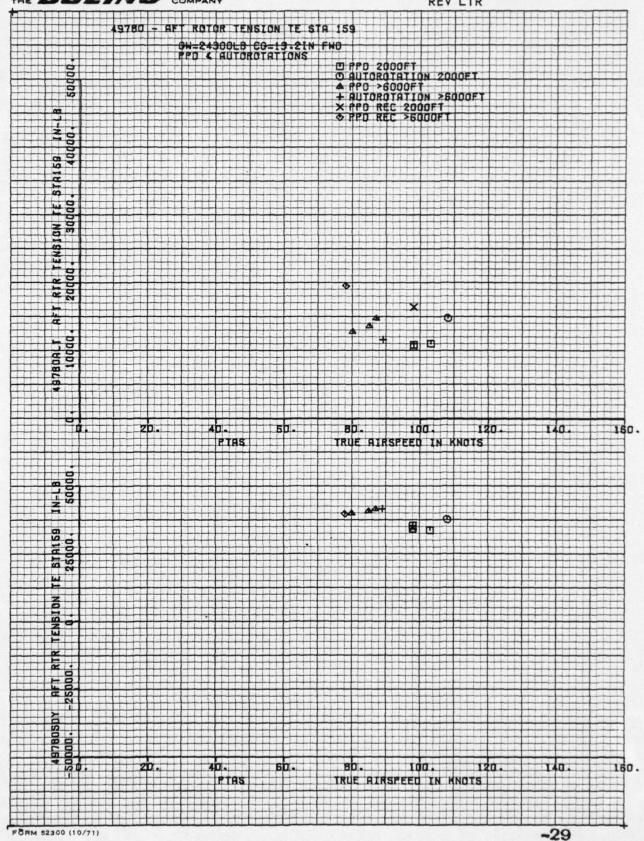
X LONG CONTROL REV >6000FT

O LIR CONTROL REV >6000FT 0 8 d. ZD. AD. 50. BD. 100. 120. PIRS TRUE RIRSPEED IN KNOTS 160. OD 160. FORM 52300 (10/71)

D210-11168-3 NUMBER FVOLUME 5

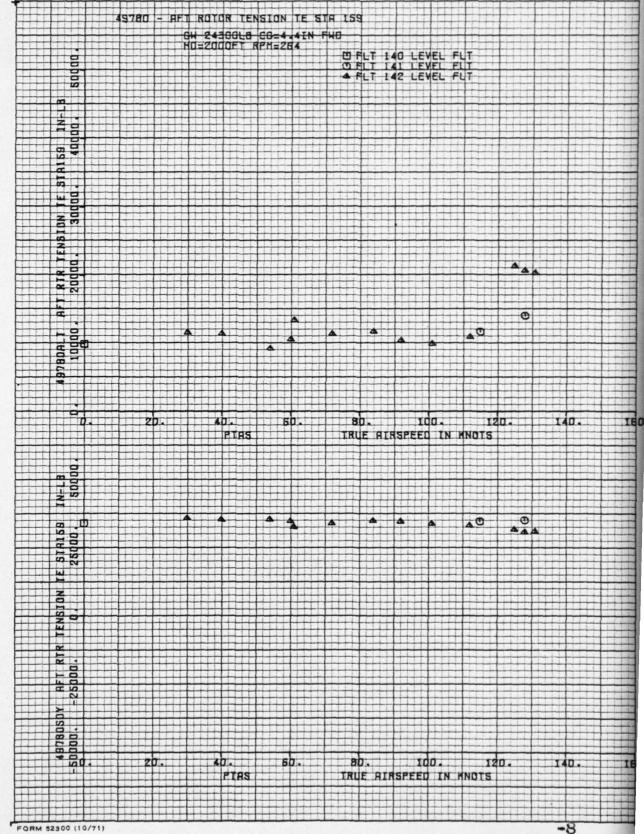


D210-11168-3 NUMBER VOLUME 5



D210-11168-3 VOLUME 5

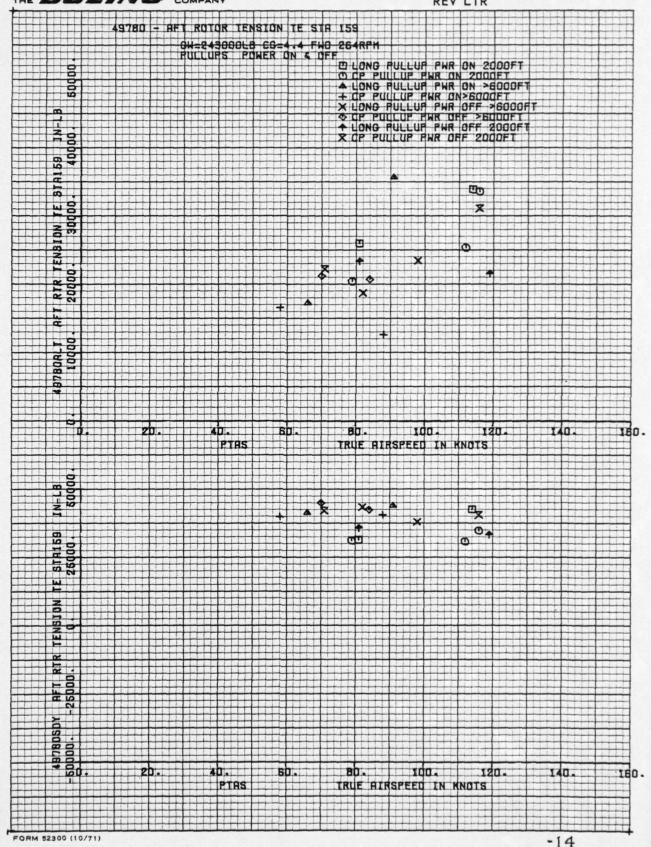
NUMBER REV LTR

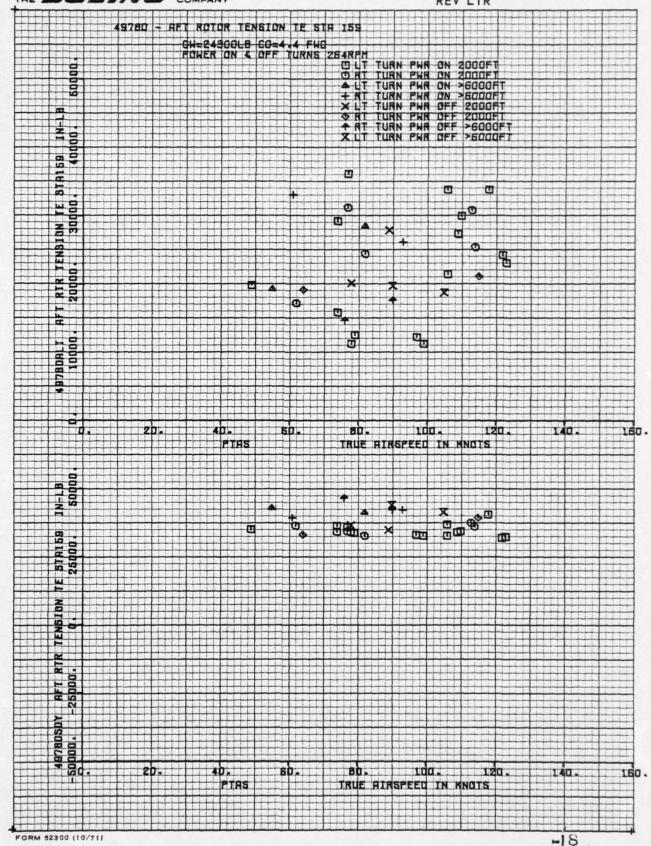


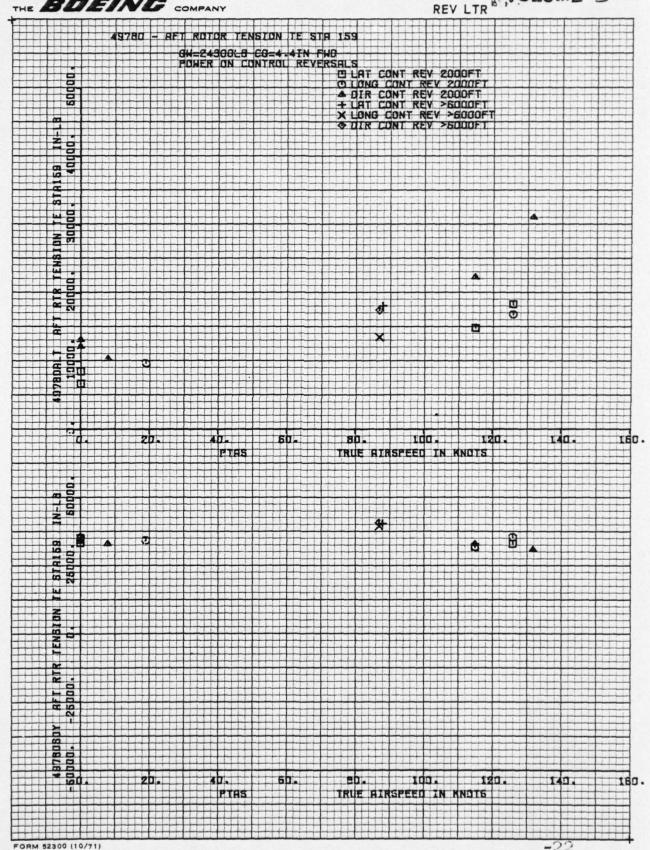
D210-11168-3 NUMBER! VOLUME 5

THE BOEING COMPANY 49780 - AFT ROTOR TENSION TE STA 159 GH=24300LB CG=4.4IN FWO HD=>6000FT 264RFH D FLT 141 LEVEL FLT 160. TRUE RIRSPEED IN KNOTS 20. 40. 50. 80. 100. 120. FTRS TRUE RIRSPEED IN KNOTS 150. FORM 52300 (10/71)

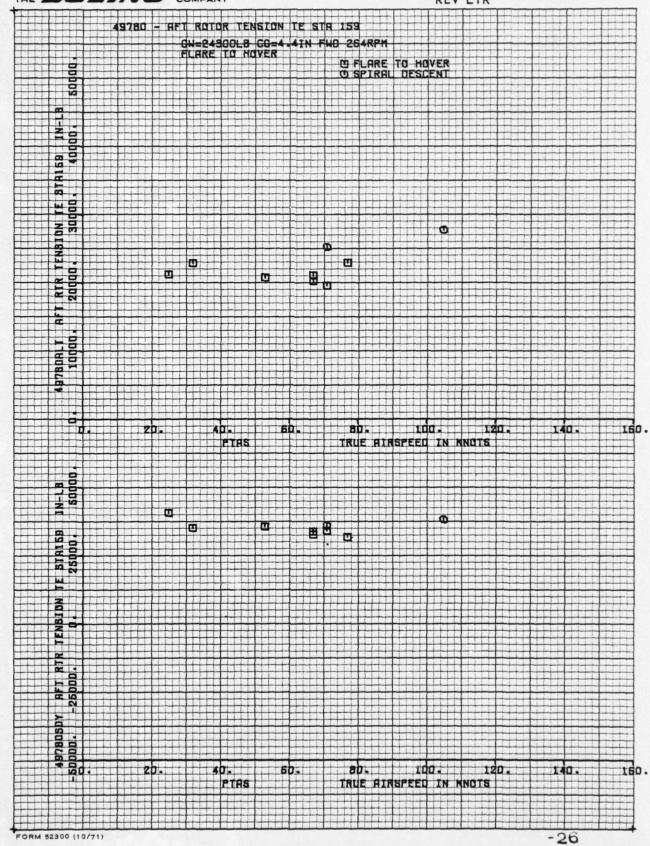
D210-11168-3 NUMBER VOLUME 5



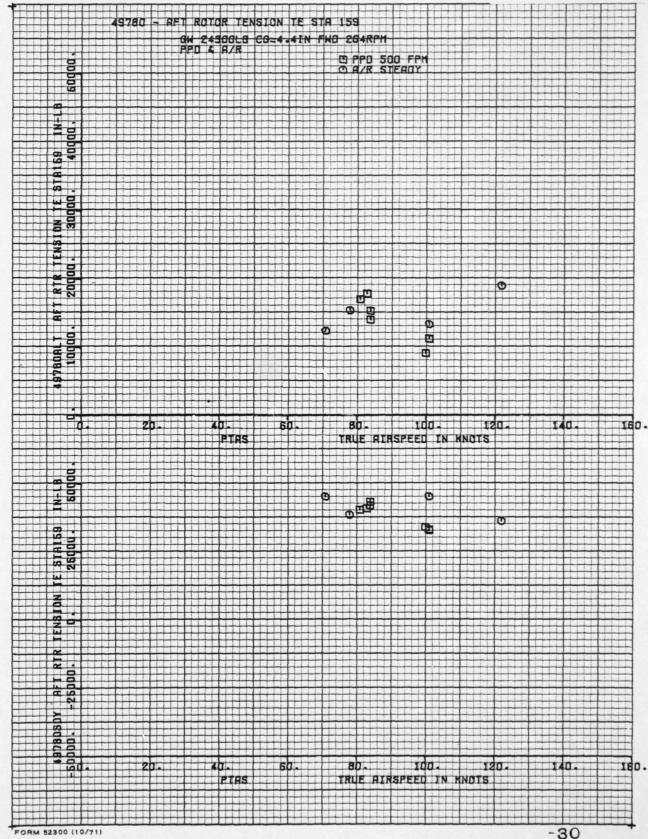




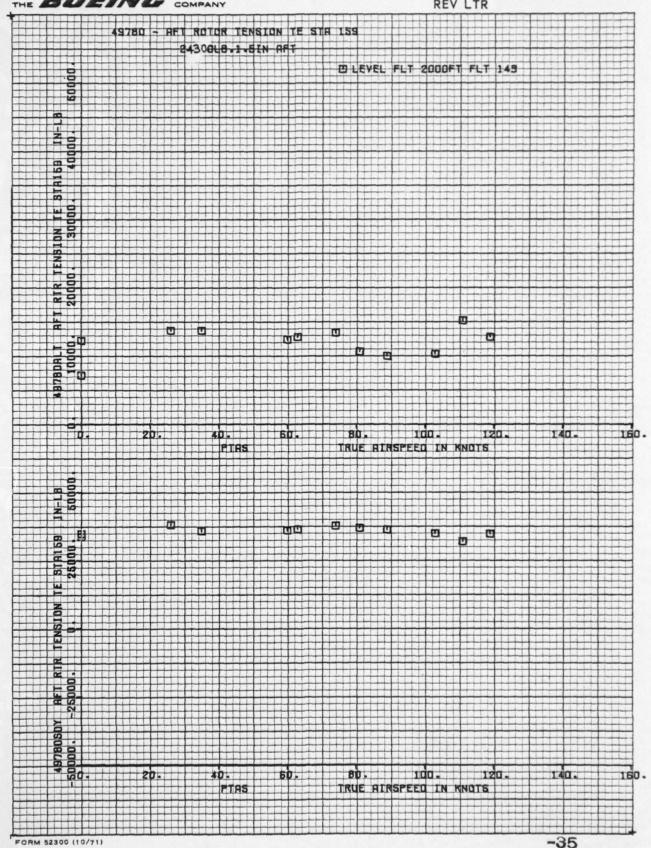
D210-11168-3 NUMBER VOLUME 5 REV LTR



D210-11168-3 NUMBER: VOLUME 5 REV LTR



D210-11168-3 NUMBER VOLUME 5 REV LTR



PREPARED BY: J. Bendo

CHECKED BY:

8/28/78

NUMBER D210-11168-3 REV LTR Volume 5 MODEL NO.

THE BUEING COMPANY DATE:

4.4 Aft Blade Torsion Bending Station 52.

D210-11168-3 NUMBER VOLUME 5

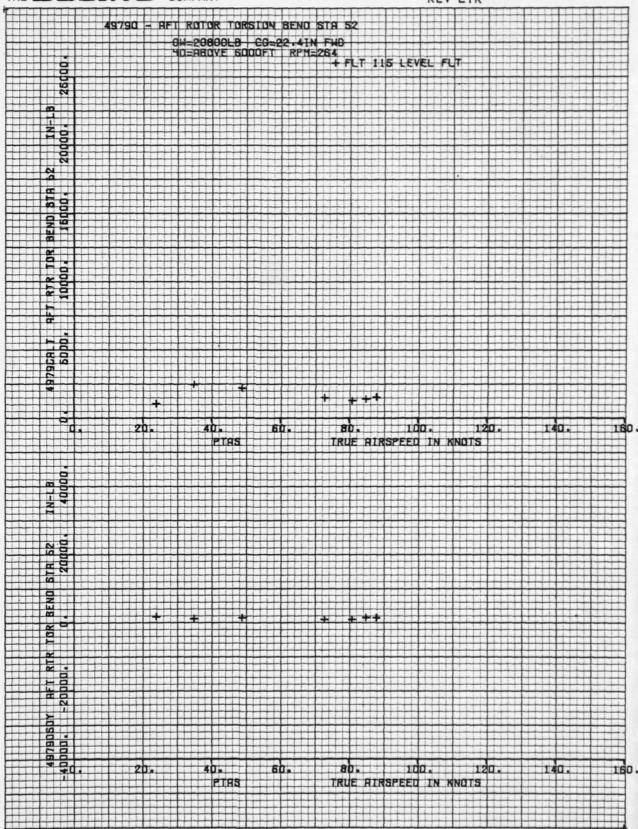
THE BOEING COMPANY REV LTR 49790 - AFT ROTOR TORSION REND STR 52 @ FLT 114 LVL FLT + FLT 115 LVL FLT - FLT 161 LVL FLT - FLT 162 LVL FLT 257. 20. AD. 60. 80. 140. 120.

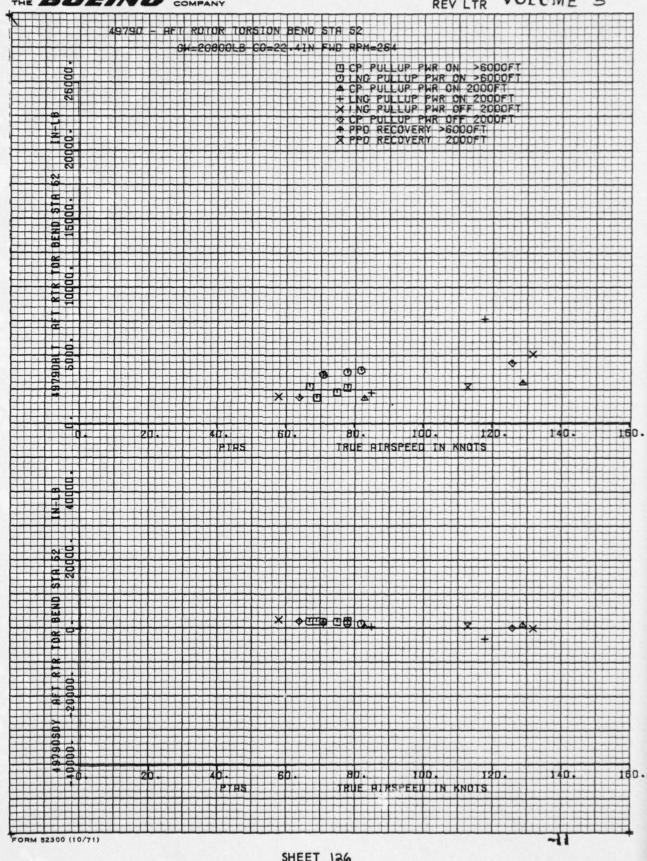
FORM 52300 (10/71)

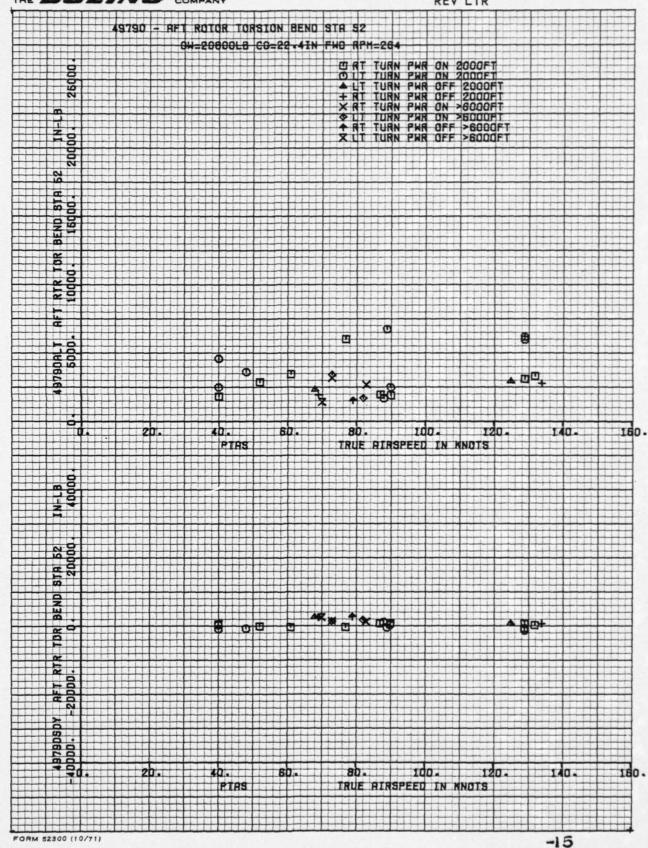
NUMBER NOLUME 5

THE BUEING COMPANY

FORM 52300 (10/71)







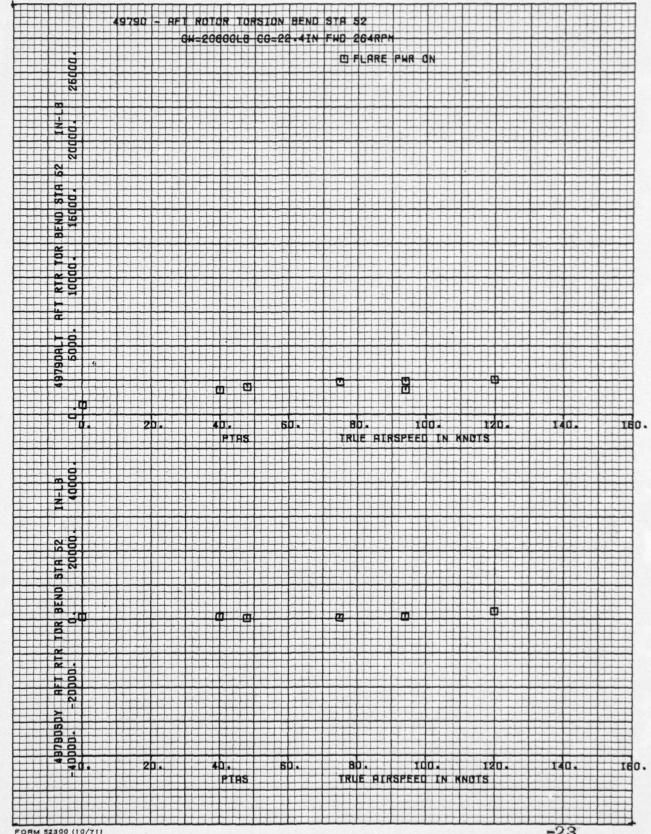
D210-11168-8 NUMBER VOLUME 5

THE BOEINE COMPANY

9790 - AFT ROTOR TORSION BEND STA 52 GH-2080GLB CG-22-4IN FHD POWER ON 264RPM CI LAT CONTROL REV 2000FT
CO LONG CONTROL REV 2000FT
A DIR CONTROL REV 2000FT
FLAT CONTROL REV 600DFT
X LONG CONTROL REV 600DFT
OTR CONTROL REV 600DFT
A LAT CONTROL REV 600DFT
CONTROL REV 600DFT
X LONG CONTROL REV >600DFT
X LONG CONTROL REV >600DFT
X LONG CONTROL REV >600DFT 12 00 BEND 150 AFT RTR TO 908. T 5000. 0 四回 20. 40. 60. PTAS 80- 1da- 12a-140. 160. TRUE RIRSPEED IN KNOTS DED DOS sp. 8b. 100. 40. PTAS TRUE AIRSPEED IN KNOTS -19 FORM 52300 (10/71)

THE BOEING COMPANY

NUMBER REV LTR VOLUME 5



D210-11168-3 NUMBER VOLUME 5

-23

THE BOEING COMPANY

REV LTR 9790 - AFT ROTOR TORSION BEND STA 52 GH=20800LB CG=22.4IN FWD POWER OFF 264RPM U LAT CONTROL REV 2000FT 25000 O LONG CONTROL REV 2000FT

DIR CONTROL REV 2000FT

LAT CONTROL REV >6000FT

Z LONG CONTROL REV >6000FT

Z DIR CONTROL REV >6000FT BEND R TOR T DO 97908.T 5000. **A** O 20. 40. 60. 80. 100. 120. PTAS TRUE AIRSPEED IN KNOTS 160. STR 52 20000. BEND. 40. 80. PTAS 80. Ida. 12a. 180 . TRUE AIRSPEED IN MNOTS FORM 52300 (10/71)

D210-11168-3 VOLUME 5

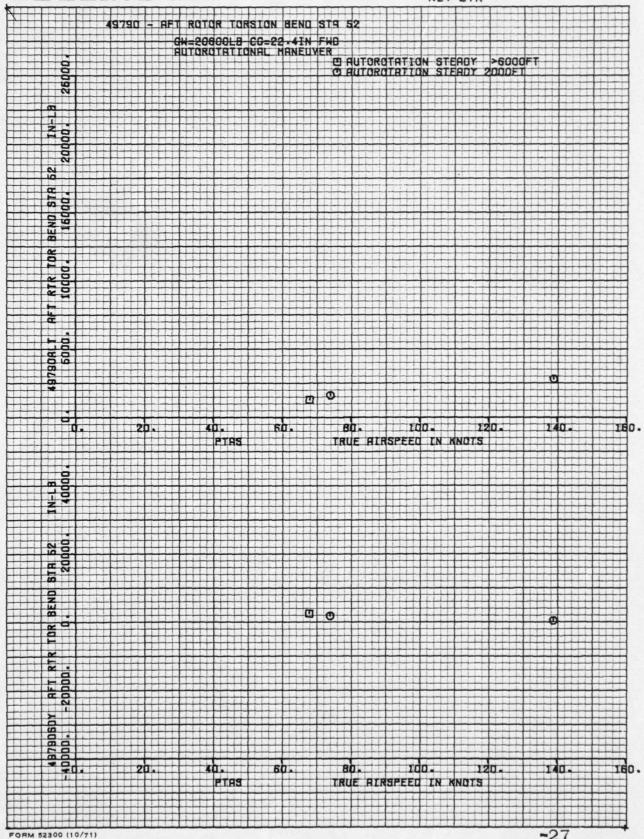
NUMBER REV LTR

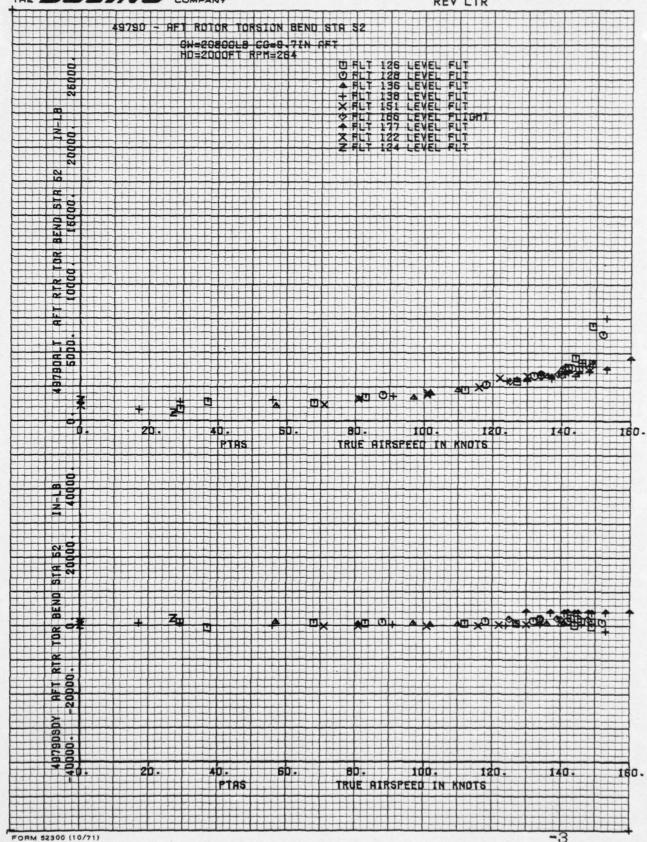
THE BOEING COMPANY 49790 - AFT ROTOR TORSION BENG STA 52 GH-2080GLB CG-22-4IN FHO PARTIAL POWER DESCENTS D PPO S.S. 2000FT B s 0. 20. 40. 60. 80. 100. 120. 140. 160. PTAS TRUE BIRSPEED IN MNOTS . 000 PTAS TRUE ALASPEED IN MNOTS

FORM 52300 (10/71)

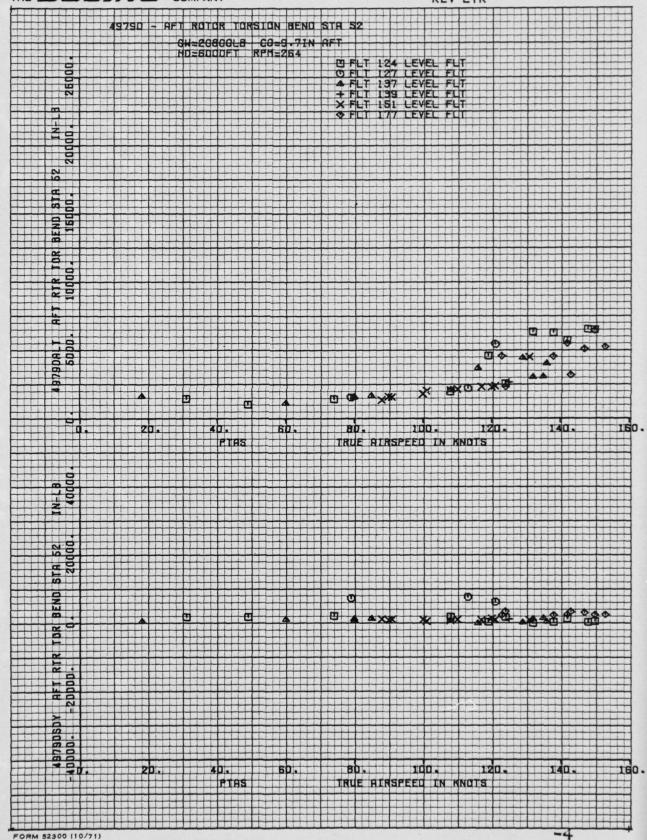
THE BOEING COMPANY

NUMBER REV LTR VOLUME 5

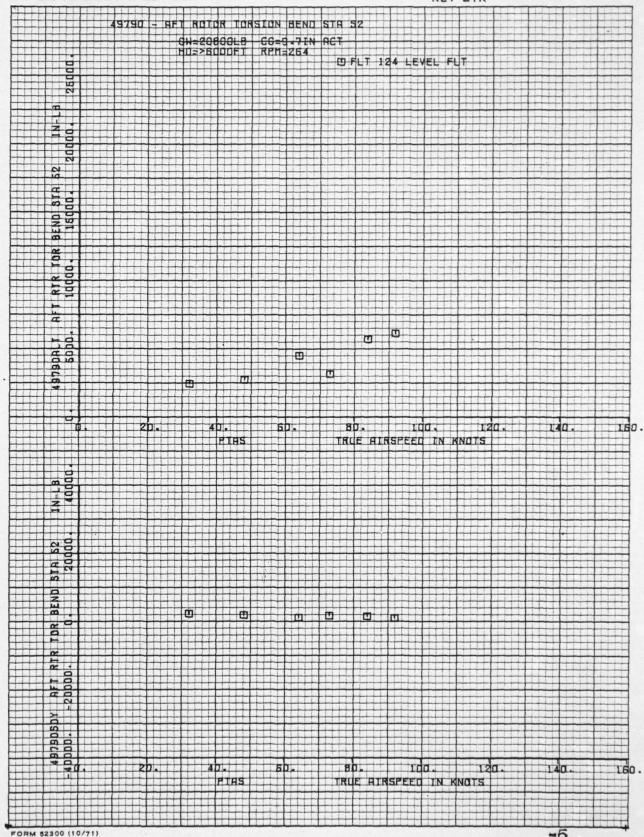




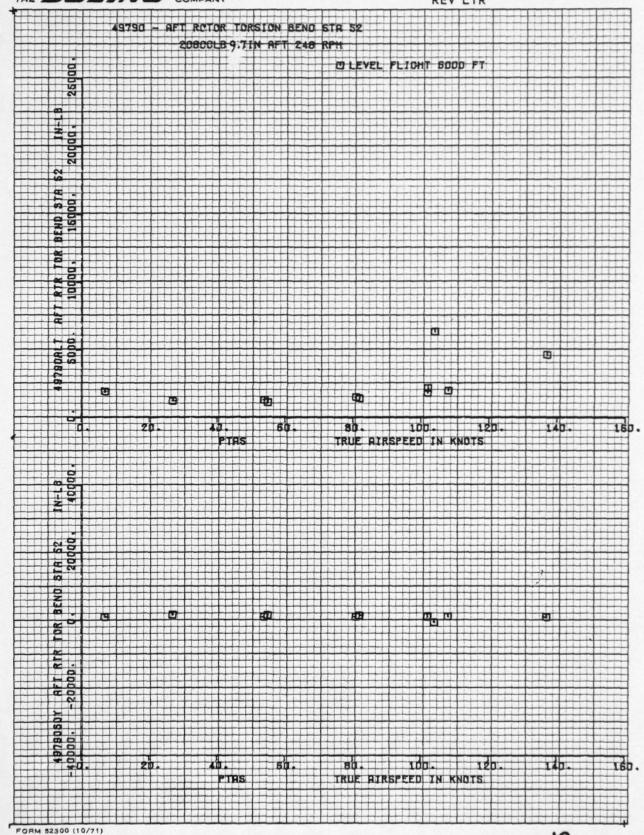
NUMBER VOLUME 5



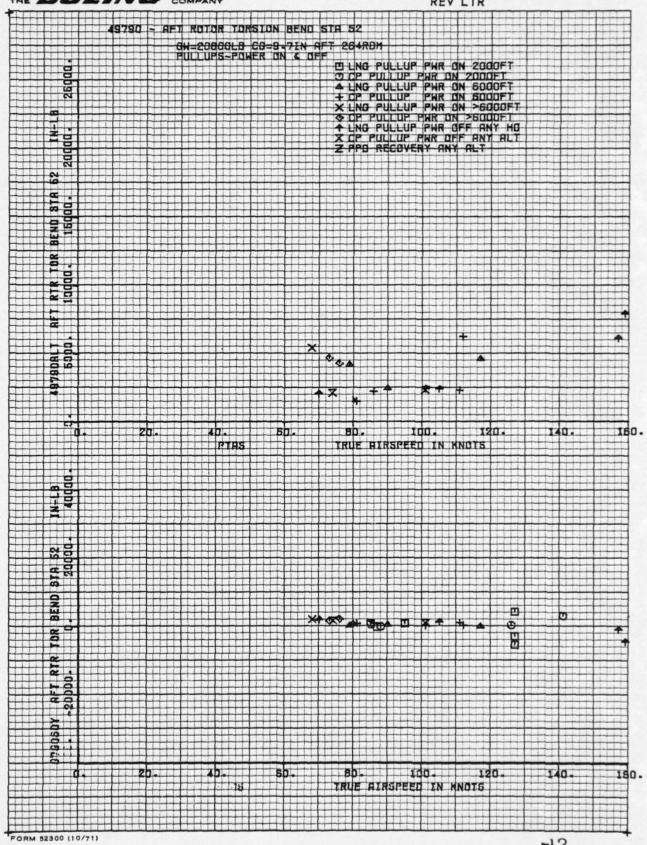
D210-11168-3 NUMBER | VOLUME 5 REV LTR



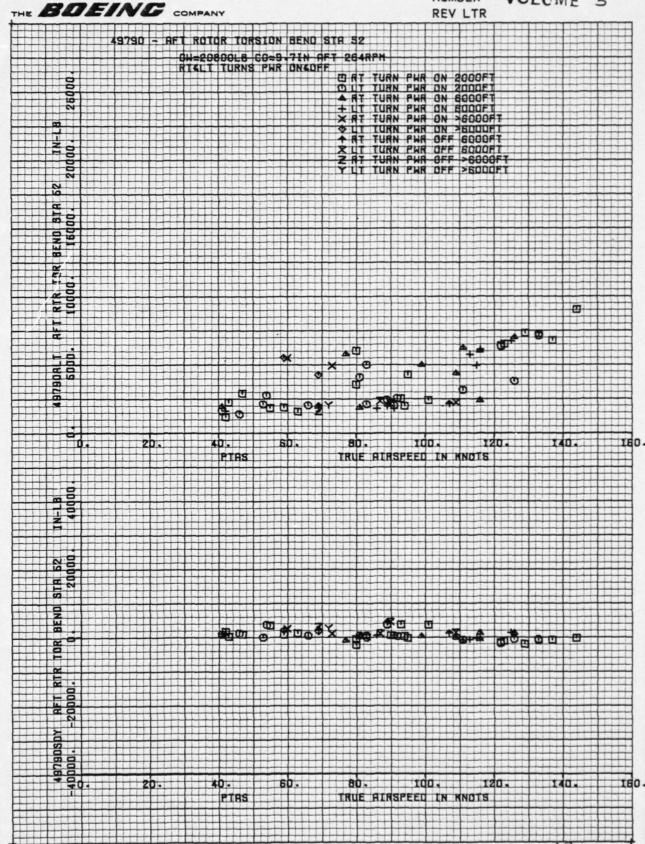
D210-11168-3 NUMBER F VOLUME 5 REV LTR



D210-11168-3 NUMBER VOLUME 5



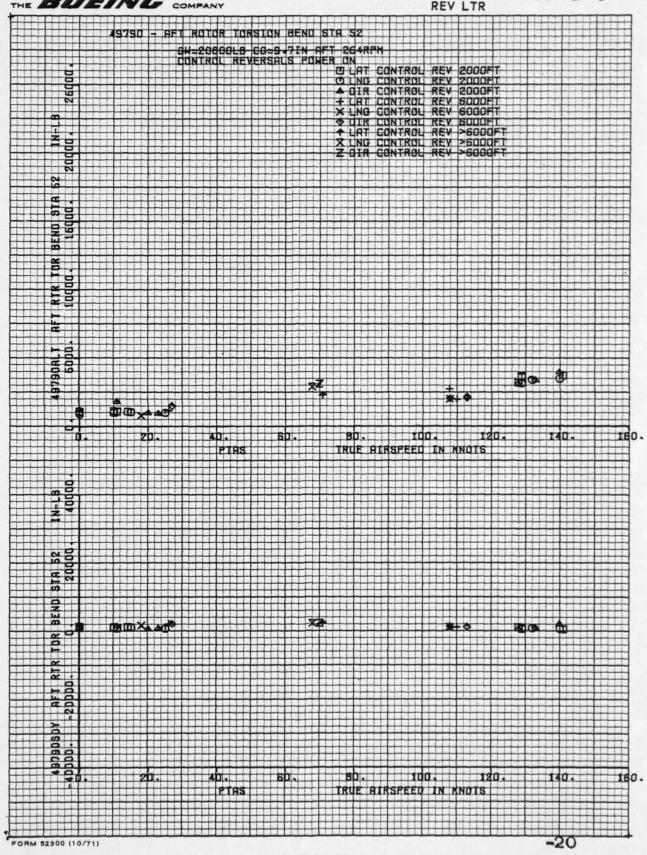
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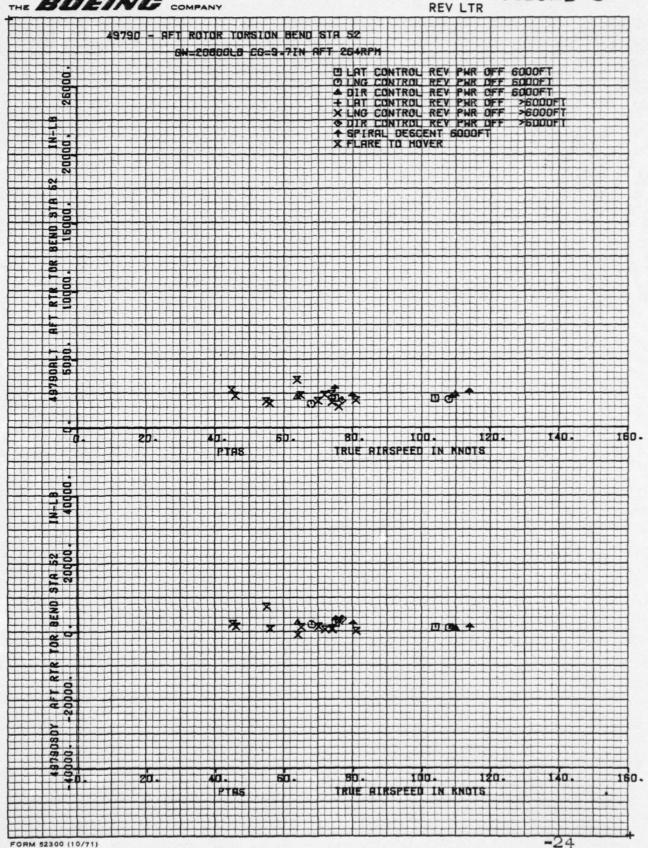
FORM 52300 (10/71)

D210-11168-3 VOLUME 5

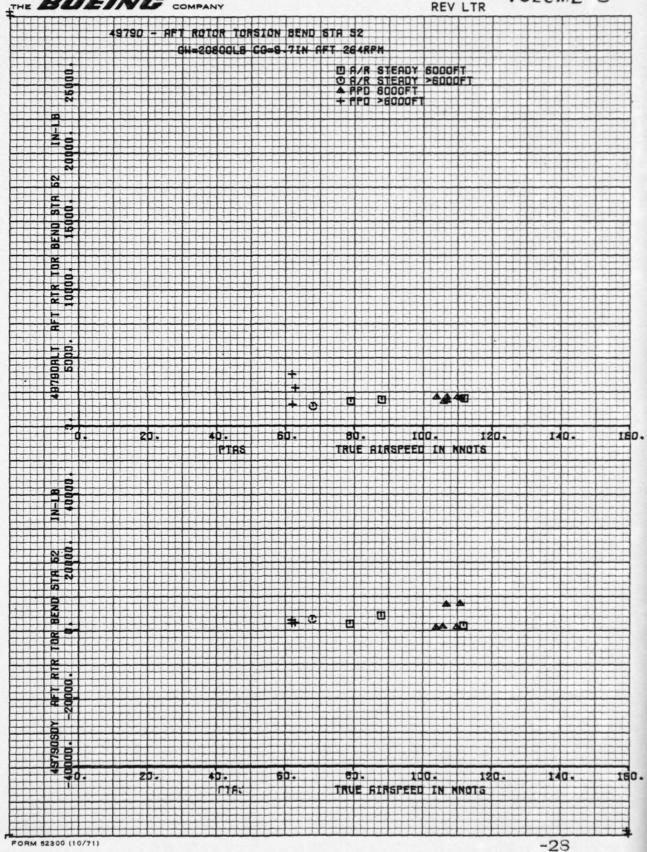
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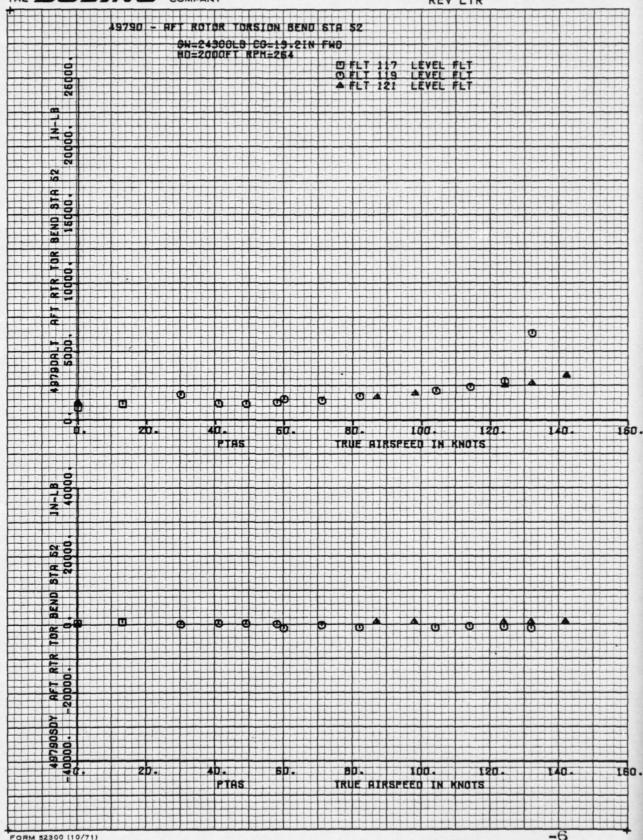
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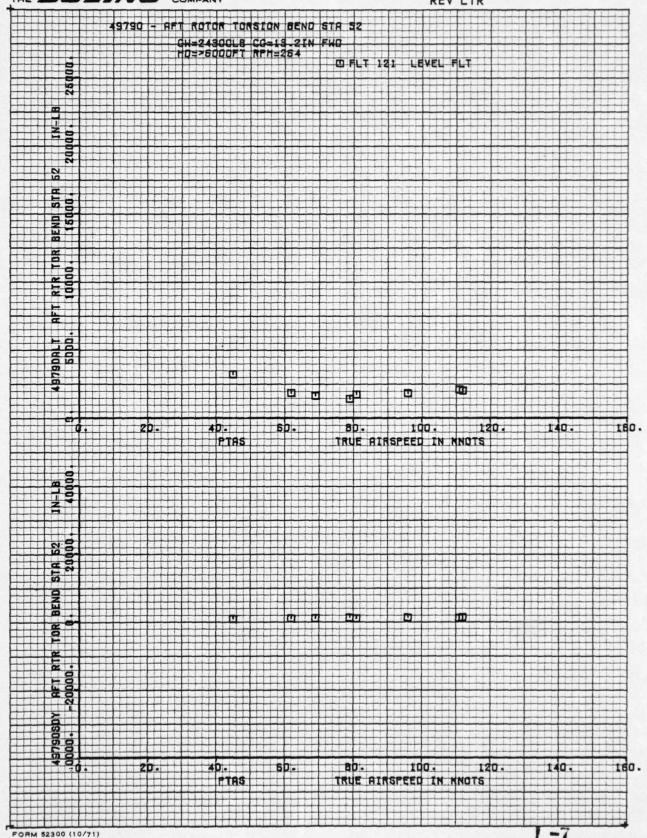
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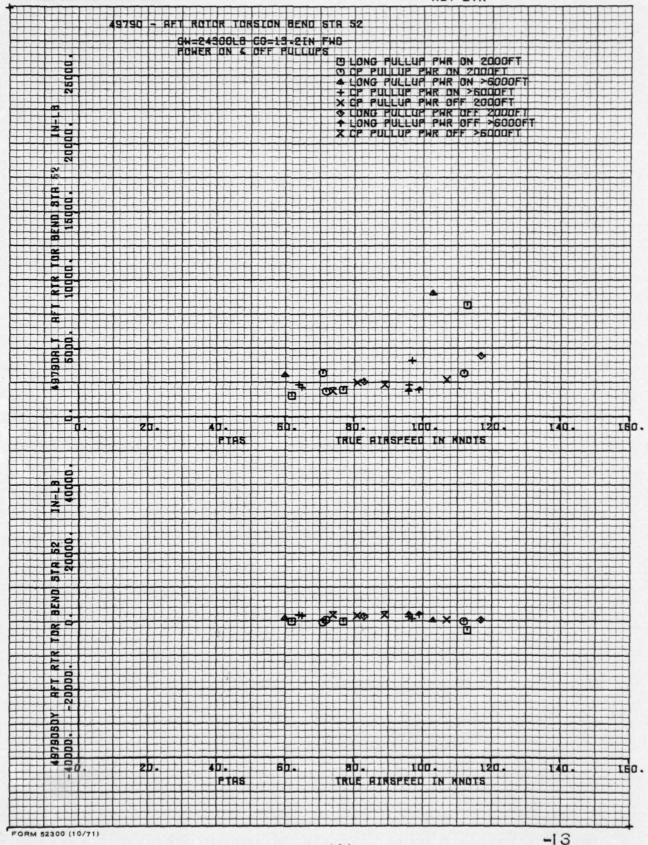
NUMBER REV LTR VOLUME 5



D210-11168-3 NUMBER | VOLUME 5



NUMBER REV LTR D210-11168-3 VOLUME 5



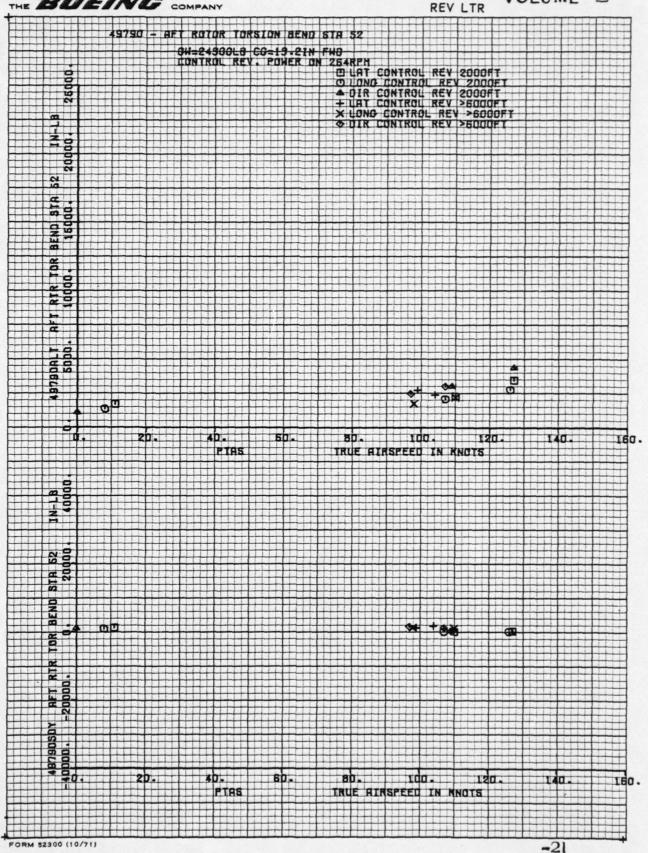
D210-11168-8 NUMBER VOLUME 5 REV LTR

THE BOEING COMPANY

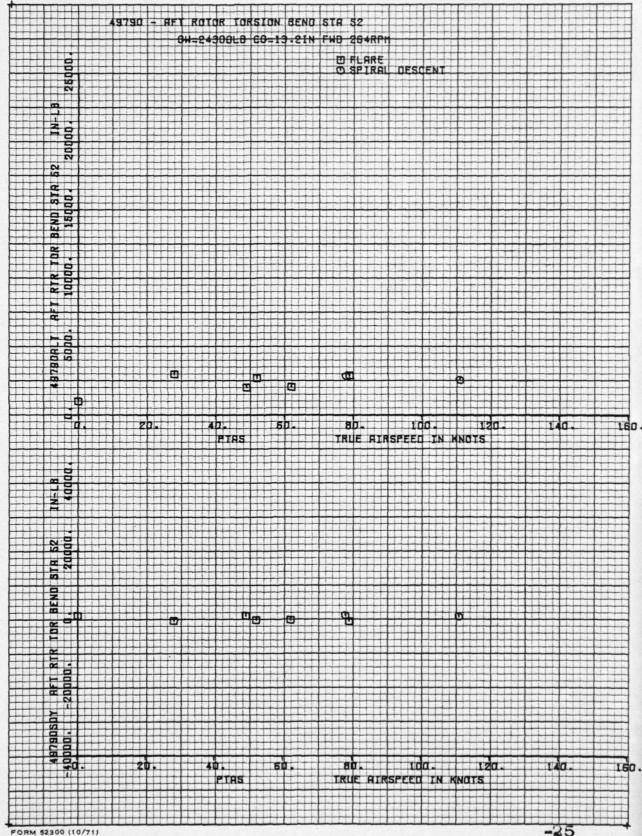
49790 - AFT ROTOR TORSION BEND STA 52 GH=2490GLB CO=19.21N FHO TURNS POHER ON AOFF 264RPH 264RPM

D LT TURN PHR ON 2000FT
O RT TURN PHR ON 2000FT
ART TURN PHR ON >6000FT
+ LT TURN PHR ON >6000FT
X LT TURN PHR OFF 2000FT
ORT TURN PHR OFF >6000FT
X RT TURN PHR OFF >6000FT
X RT TURN PHR OFF >6000FT 8TA BEND 160 0 o × ZD. AD. 50. BD. 100. 120. PTAS TRUE ALASPEED IN KNOTS 160. 160. FORM 52300 (10/71)

' D210-11168-3 NUMBER VOLUME 5



D210-11168-3 NUMBER REV LTR VOLUME 5



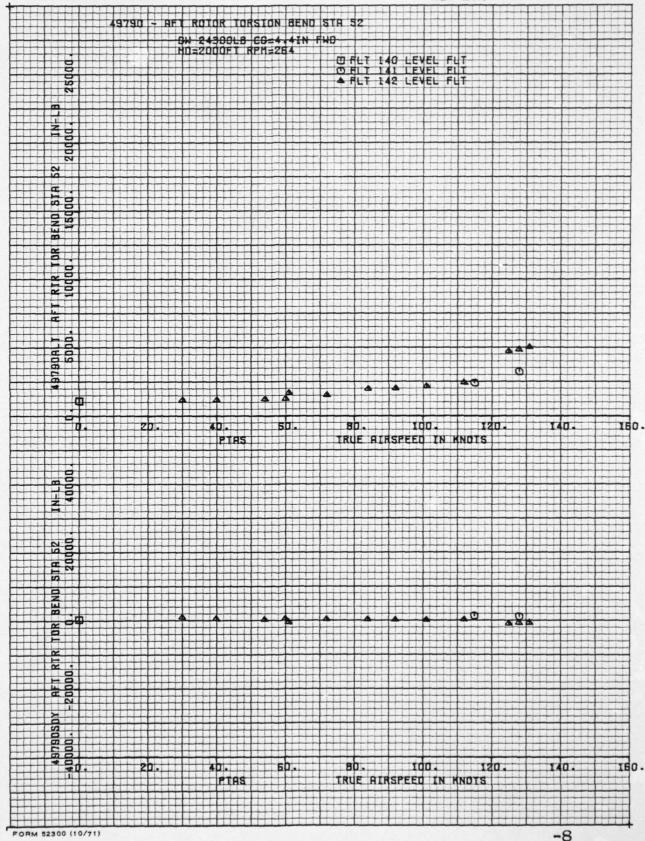
NUMBER REV LTR D210-11168-3

THE BOEING COMPANY

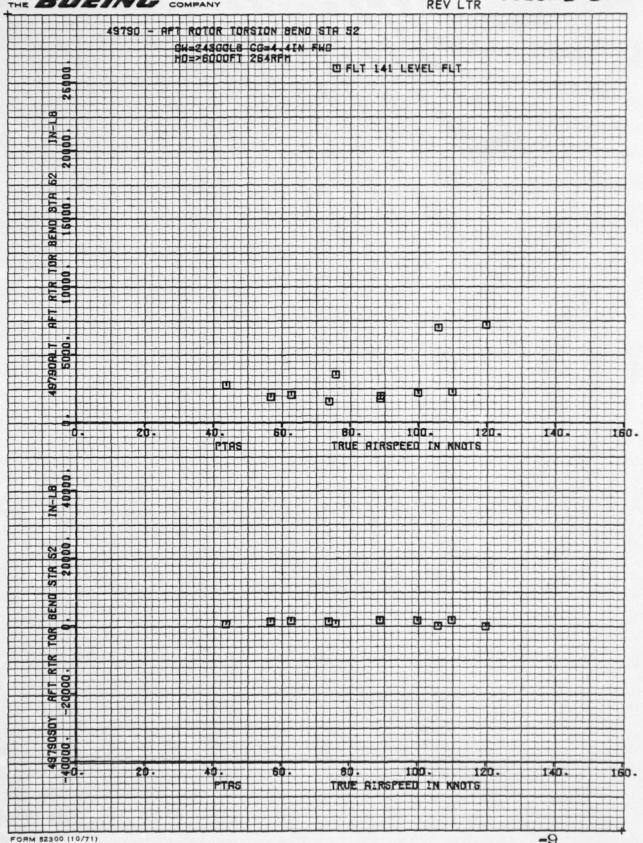
49790 - AFT ROTOR TORSION BEND STA 52 GH=243GOLB CO=13.2IN FWD CO PPO 2000FT 26900 O RUTOROTATION ZODOFT 4 PPD >6000FT + AUTOROTATION > SOCOFT X APD REC 2000FT S PPD REC >6000FT IA 62 15000 ST. RTR TOR AD. 50. BO. LUO. 120. PTAS TRUE PLASPEED IN MNOTS 160. STA 200 80 ZD. 40. 50. 80. 100. 120. TRUE ALASPEED IN MOTS -29 FORM 52300 (10/71)

NUMBER

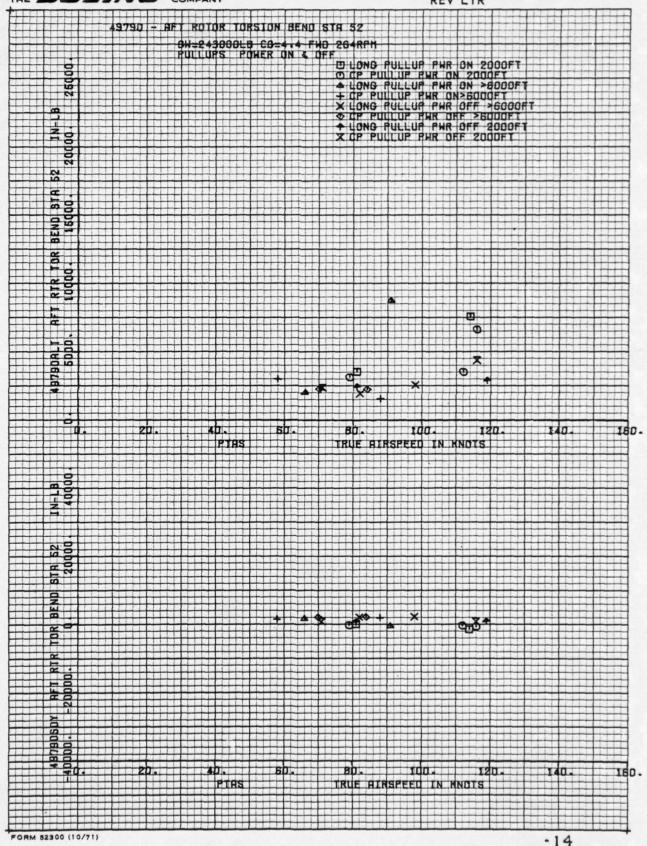
D210-11168-3 VOLUME 5 REV LTR



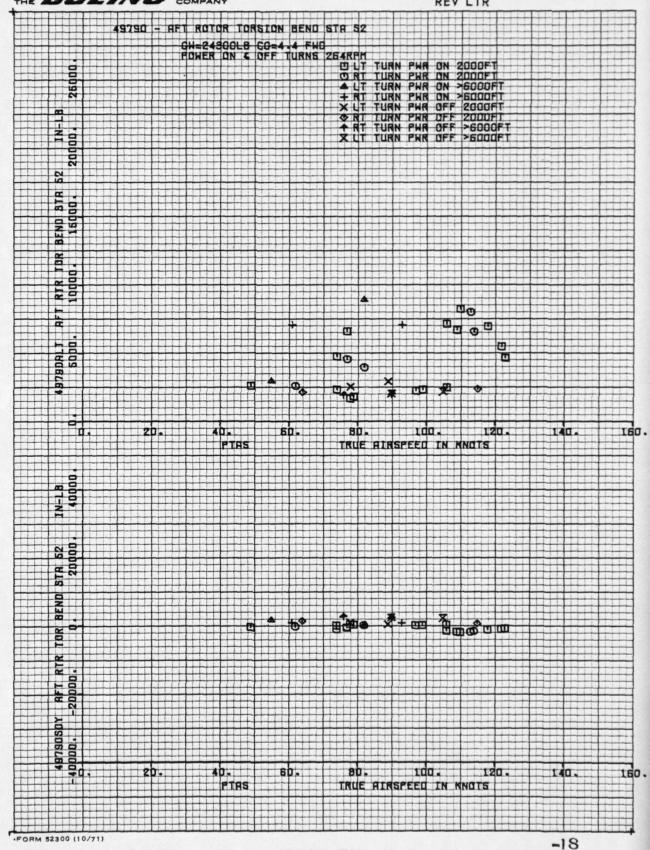
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D210-11168-3 NUMBER VOLUME 5 REV LTR

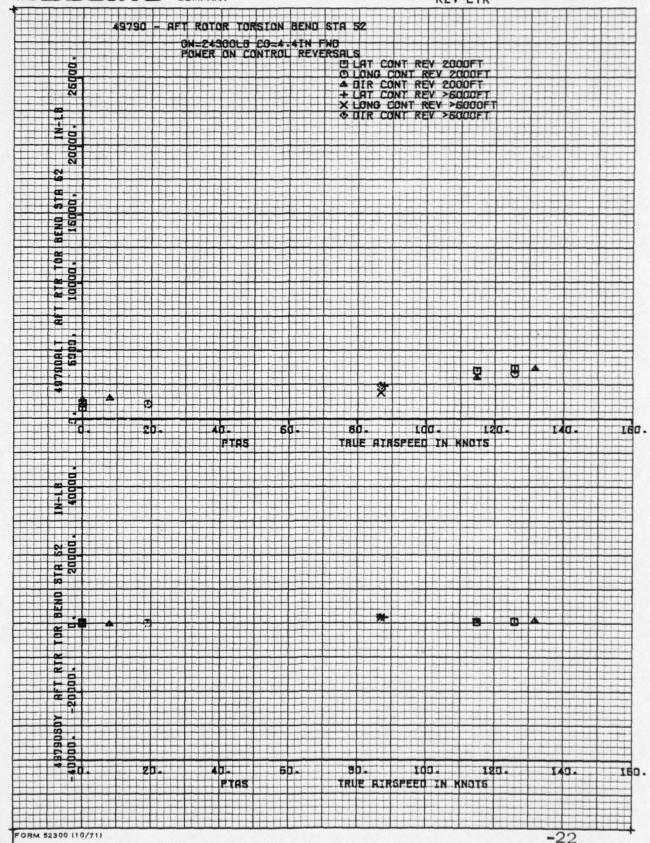


NUMBER REV LTR VOLUME 5



THE BOEING COMPANY

NUMBER REV LTR VOLUME 5



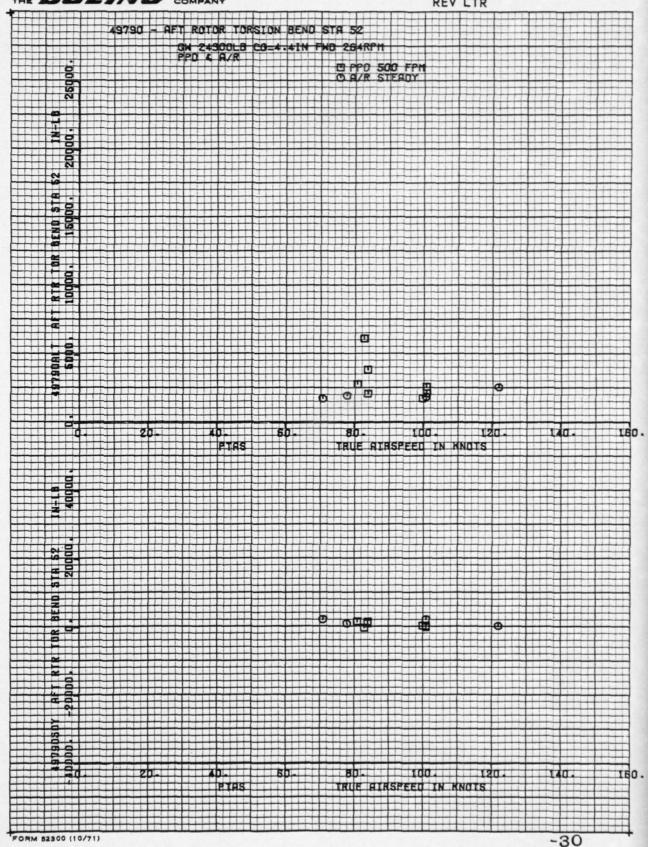
D210-11168-8 NUMBER

-26

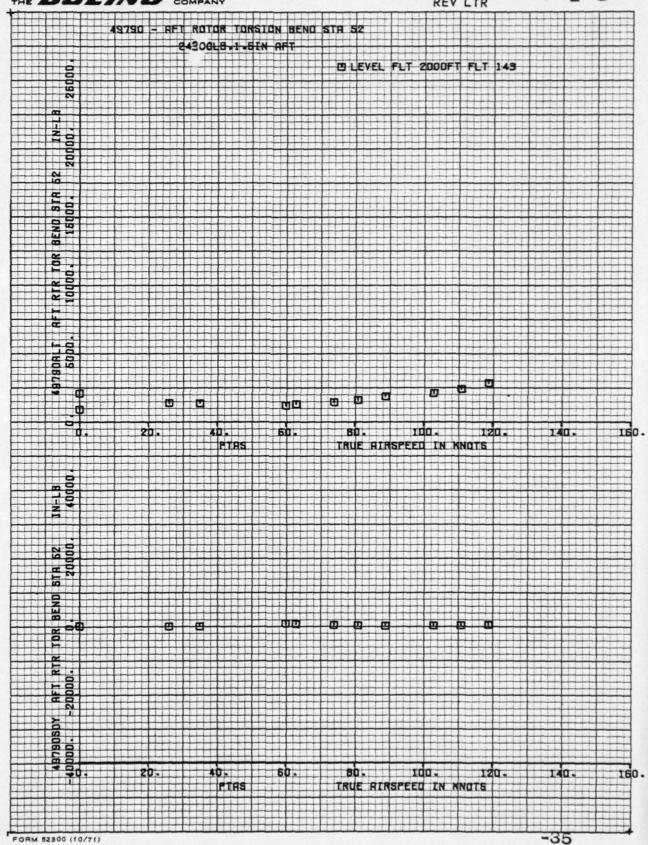
VOLUME 5 THE BOEING COMPANY REV LTR 49790 - AFT ROTOR TONSION BEND STA 52 CH=24500LB CG=4.4IN FND 264RPM FLARE TO HOVER D FLARE TO HOVER O SPIRAL DESCENT STR 00 BEND 150 20. 40. 60. 80. 1da. 12a. PIRS TRUE AIRSPEED IN MNOTS STA 62 20000 80. 100. 120. 160. TRUE RINSPEED IN MNOTS PTAS

FORM 52300 (10/71)

D210-11168-3 NUMBER VOLUME 5 REV LTR



NUMBER VOLUME 5



PREPARED BY: J. Bendo

CHECKED BY:

8/28/78

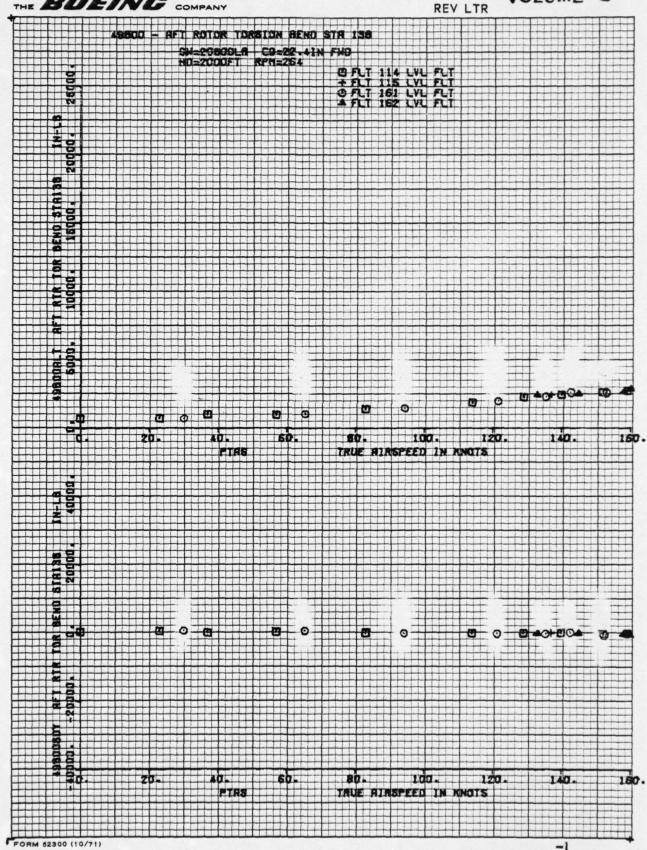
NUMBER D210-11168-3 REV LTR Volume 5

MODEL NO.

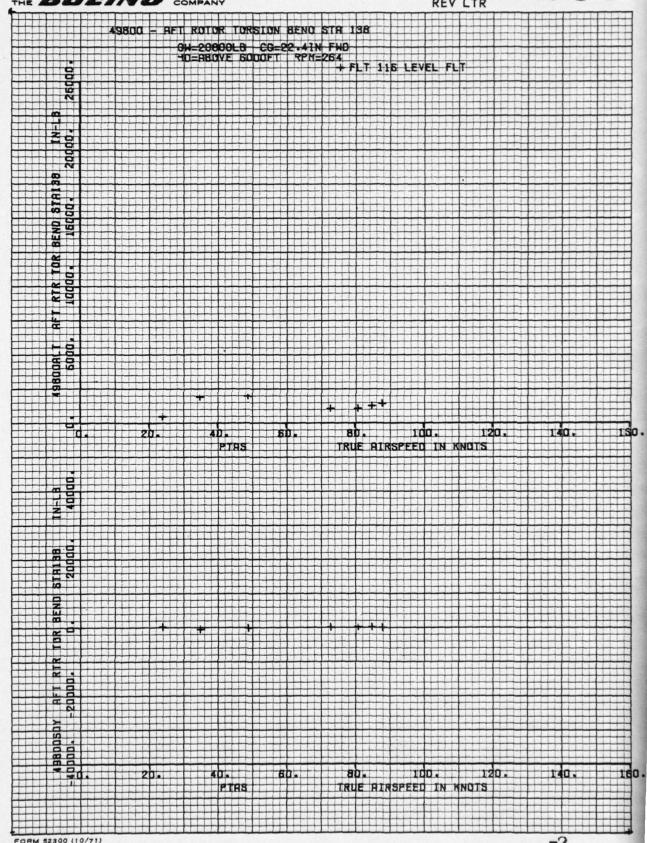
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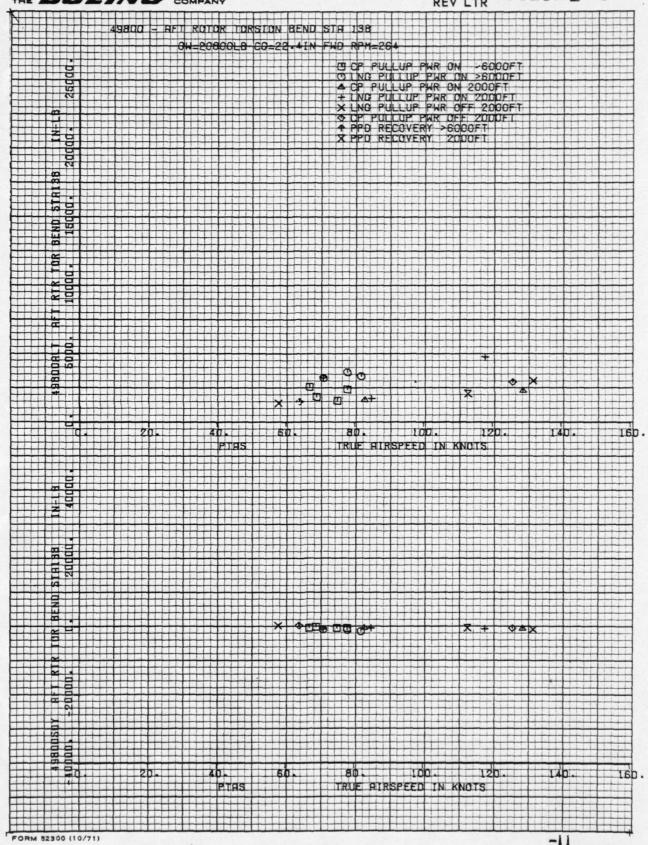
4.5 Aft Blade Torsion Bending Station 138.

D210-11168-3 NUMBER ! VOLUME 5

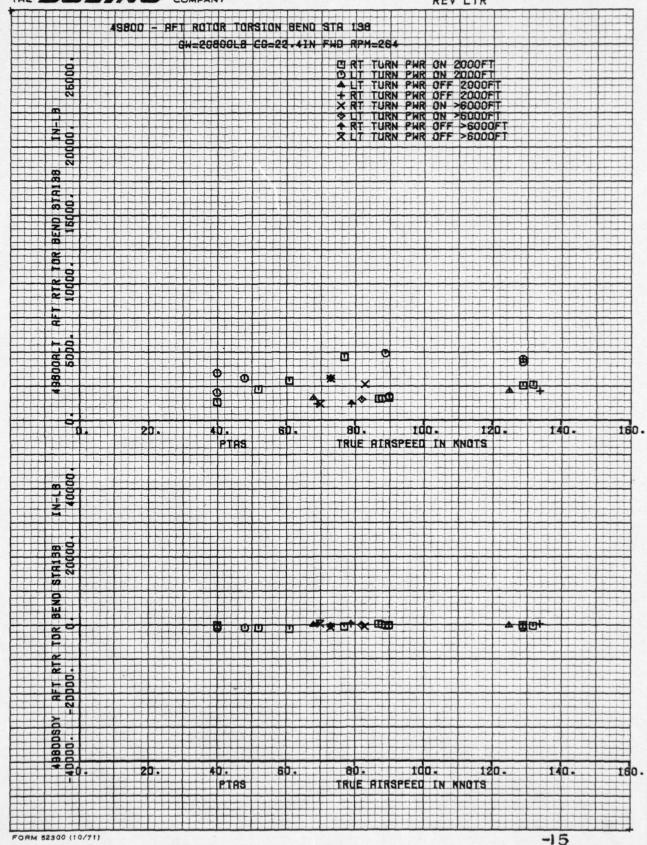


NUMBER VOLUME 5





NUMBER | VOLUME 5



D210-11168-3 NUMBER VOLUME 5

THE BOEING COMPANY

49800 - AFT ROTOR TORSION BENO STA 138 GH-20800LB CG-22-4EN FWD POWER ON 264RPH BLAT CONTROL REV 2000FT
O LONG CONTROL REV 2000FT

GIR CONTROL REV 2000FT

+ LAT CONTROL REV 6000FT

X LONG CONTROL REV 6000FT ♦ DIR CONTROL REV SCOOLFT

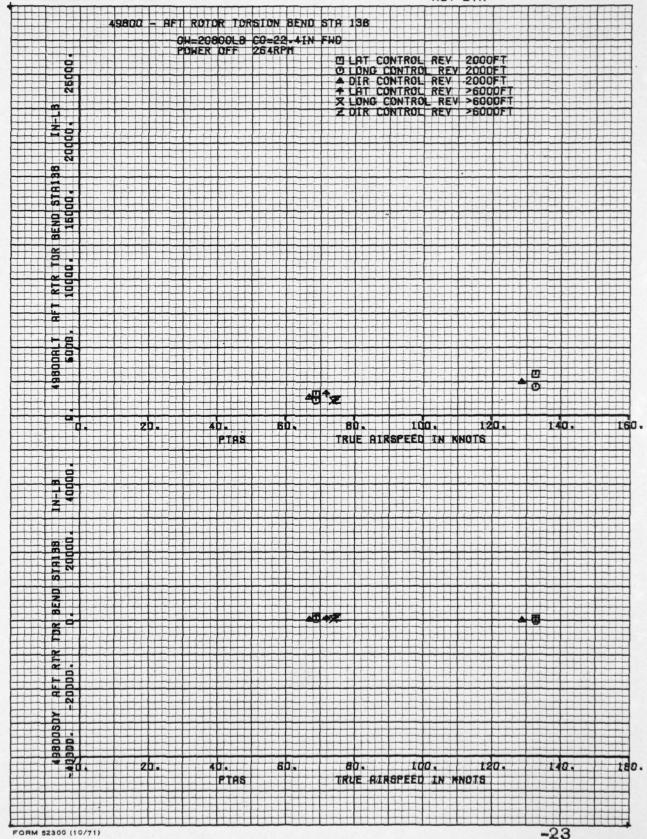
LAT CONTROL REV >6000FT

X LONG CONTROL REV >6000FT

Z DIR CONTROL REV >6000FT BEND TOTOG. Œ mo* SD. 8D. 100. 120.
TRUE AIRSPEED IN KNOTS 70000 8 11 OA SD. 80. 100. 11 180. PTAS FORM 52300 (10/71) -19

THE BOEING COMPANY

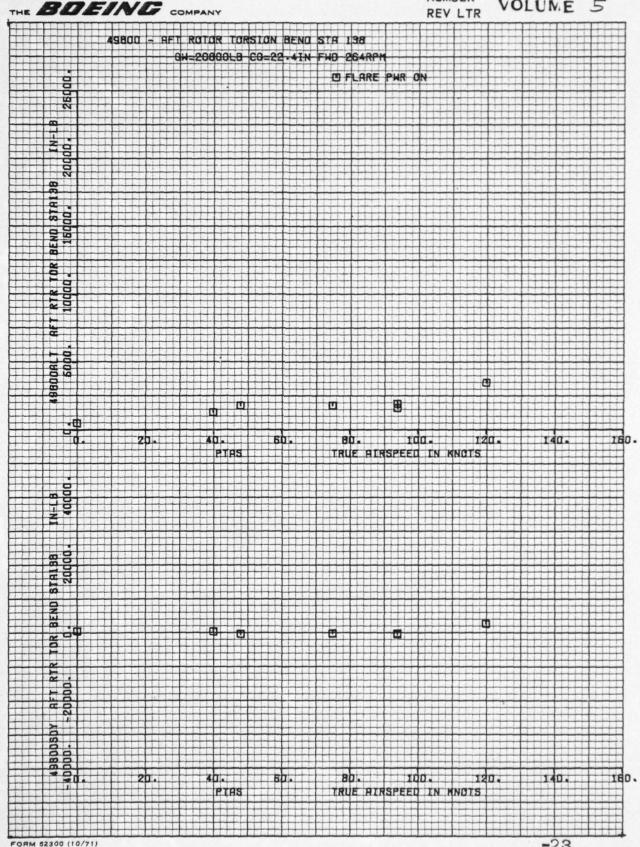
NUMBER VOLUME 5



NUMBER REV LTR

D210-11168-3 VOLUME 5

-23



FORM 52300 (10/71)

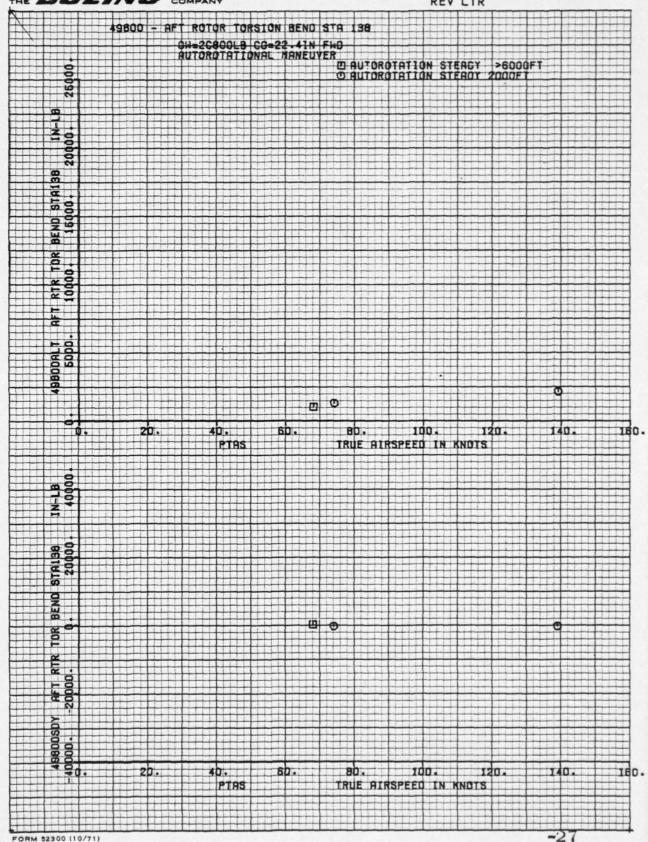
D210-11168-3 NUMBER VOLUME 5 REV LTR

THE BOEING COMPANY

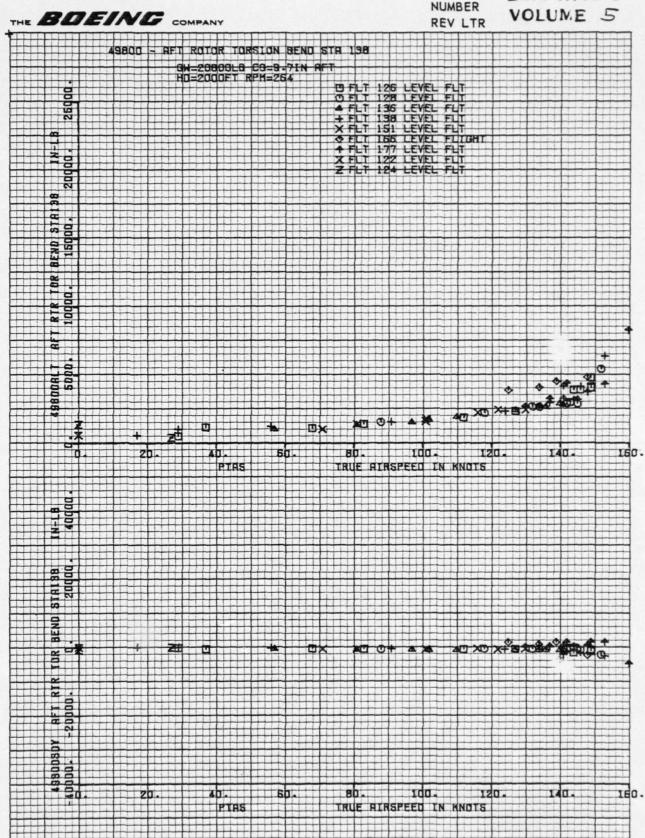
- RET ROTOR TORSION BENO STA 138 49800 ON=20000LB CG=22.4IN FWD
PRITIAL POWER DESCENTS
CD PPO S.S. 2000FT
CO PPO S.S. >6000FT G. 20- 40. 50. 80. 100. 120. 140. PTHS TRUE SIRSPEED IN KNOTS 160. BEND BEND # 52 00 (10/71)

SHEET 165 150.

NUMBER REV LTR VOLUME 5

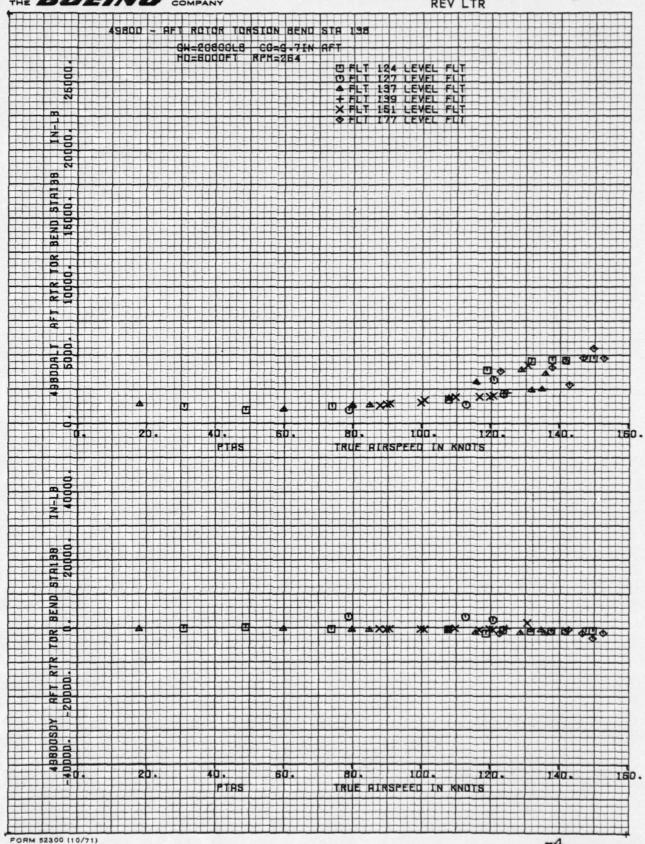


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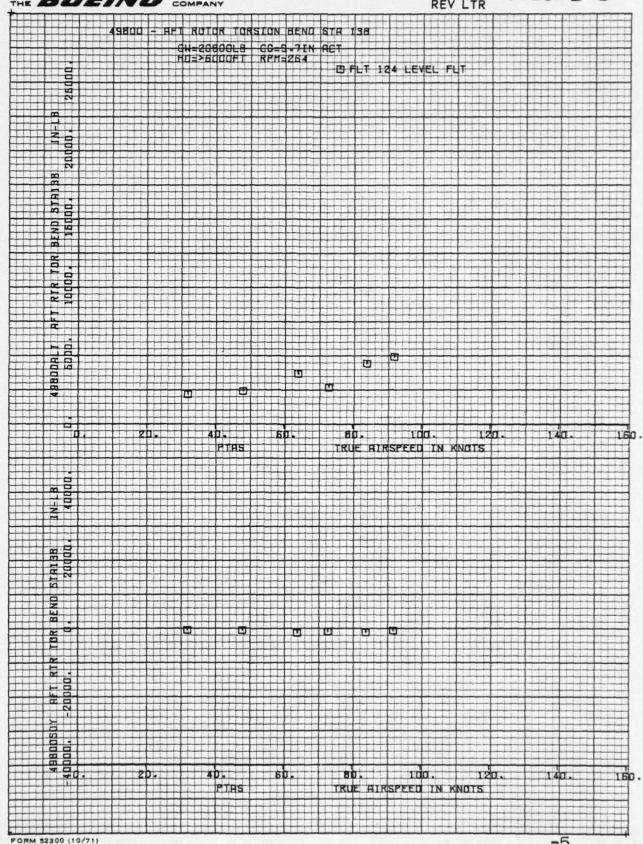


FORM 52300 (10/71)

NUMBER REV LTR VOLUME 5

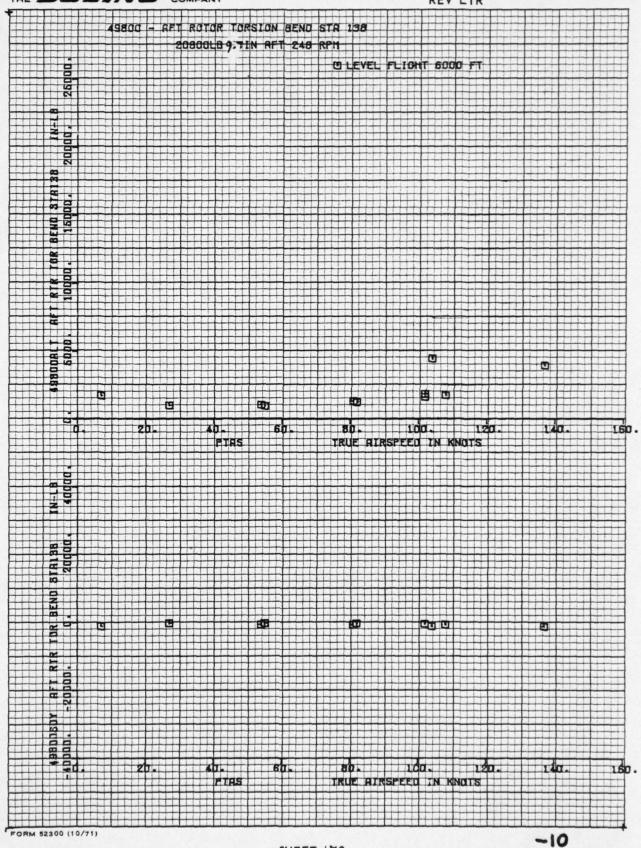


NUMBER REV LTR VOLUME 5



D210-11168-3 VOLUME 5

NUMBER REV LTR



D210-11168-3 VOLUME 5

NUMBER REV LTR

THE BOEING COMPANY 49800 - AFT ROTOR TORSION BEND STA 138 GM-20000LD CO-9-7IN AFT 264RDM PULLUPS-POWER ON & OFF © LNG PULLUP PHR ON 2000FT

© CP PULLUP PHR ON 2000FT

4 LNG PULLUP PHR ON 6000FT

+ CP PULLUP PHR ON 5000FT

X LNG PULLUP PHR ON >6000FT

◆ LNG PULLUP PHR ON >6000FT

◆ LNG PULLUP PHR ON >6000FT

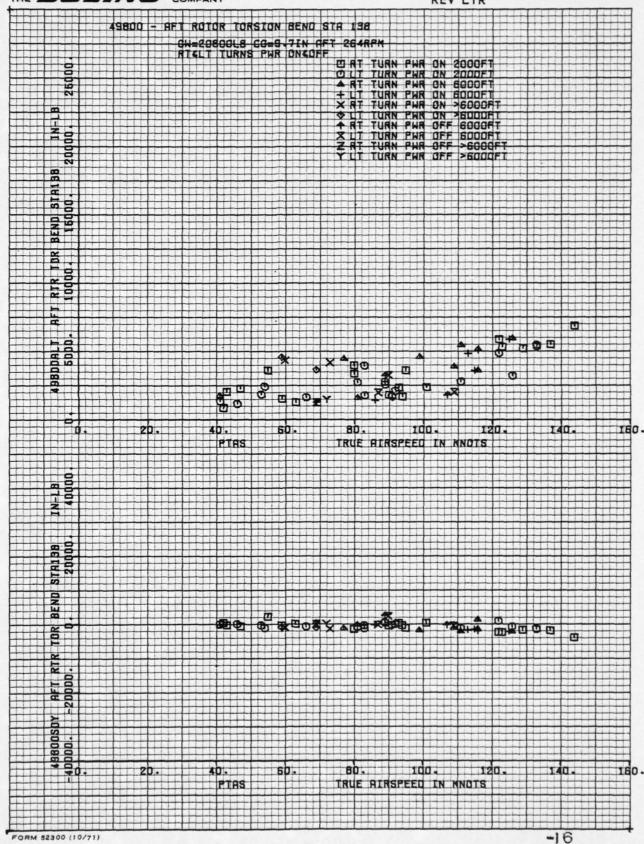
◆ LNG PULLUP PHR OFF RNY HD

X CP PULLUP PHR OFF RNY HD

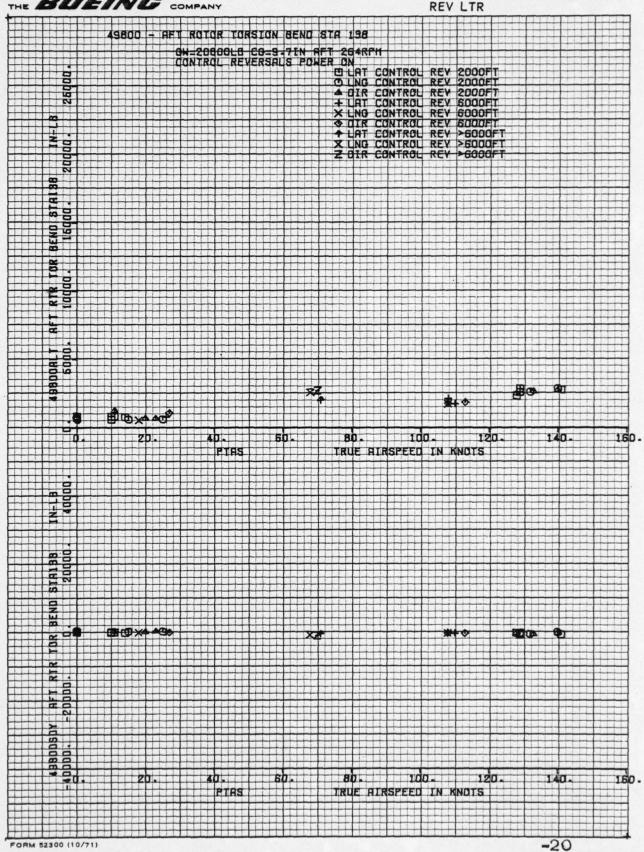
X CP PULLUP PHR OFF RNY RLT 15000. * *** * *** 50- 80- 100-TRUE ALASPEED IN KNOTS STR138 20000 BEND. 80- 100-TAS TRUE AIRSPEED IN MNOTS

FORM 52300 (10/71)

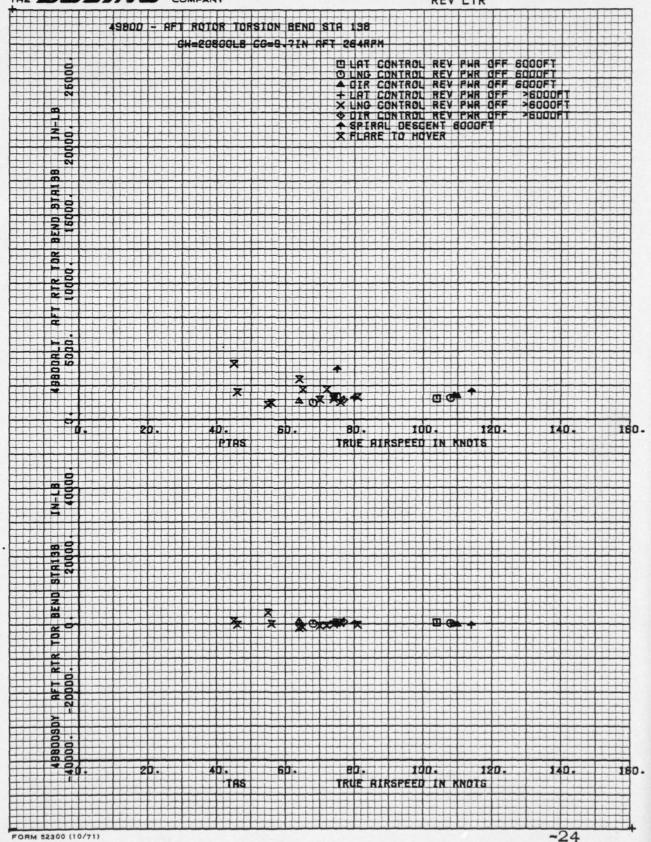
171



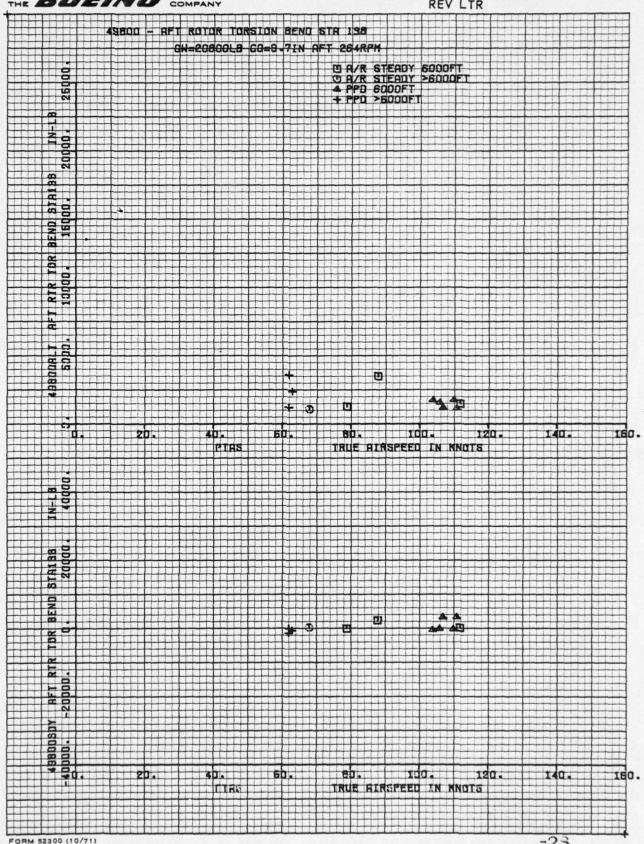
D210-11168-3 NUMBER VOLUME 5



NUMBER REV LTR



D210-11168-3 NUMBER VOLUME 5 REV LTR

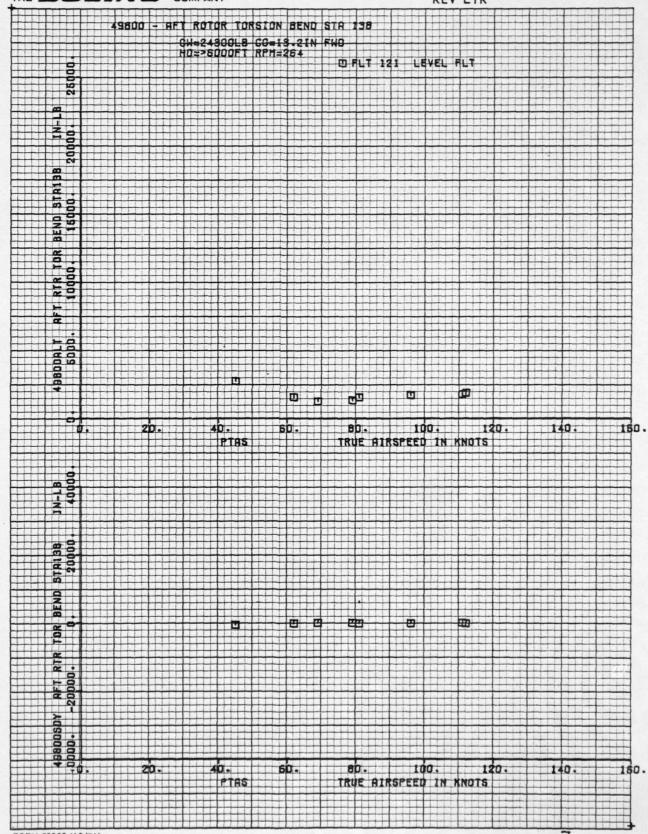


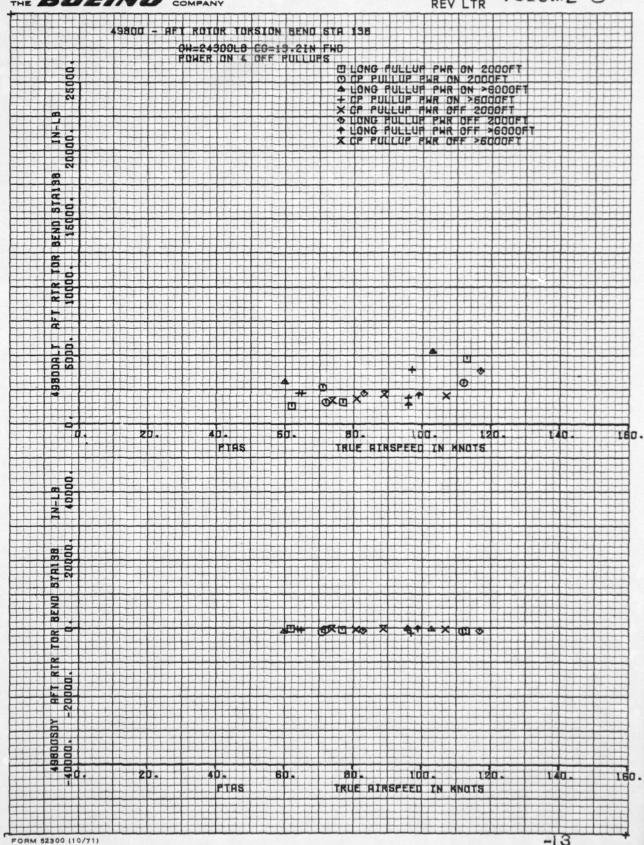
D210-111 NUMBER VOLUM! THE BOEING COMPANY **REV LTR** 49800 - AFT ROTOR TORSION BEND STA 198 0H=24900LB C0=19.2IN FH0 HD=2000FT RPH=264 THE THE LEVEL FLT 26000. A FLT 121 LEVEL FLT STR138 00. E . 50- 50- 100- 12 TRUE AIRSPEED IN MNOTS 160. PTAS STA138 20000 BEND AD. 50. 80. 100. 120. PTAS TRUE HIRSPEED IN MNOTS

FORM 52300 (10/71)

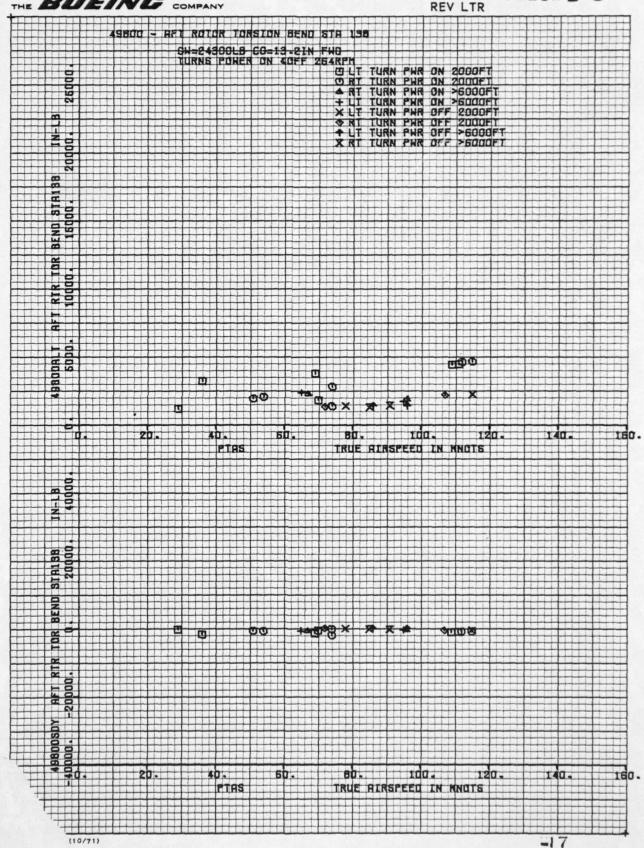
THE BOEING COMPANY

NUMBER REV LTR VOLUME 5

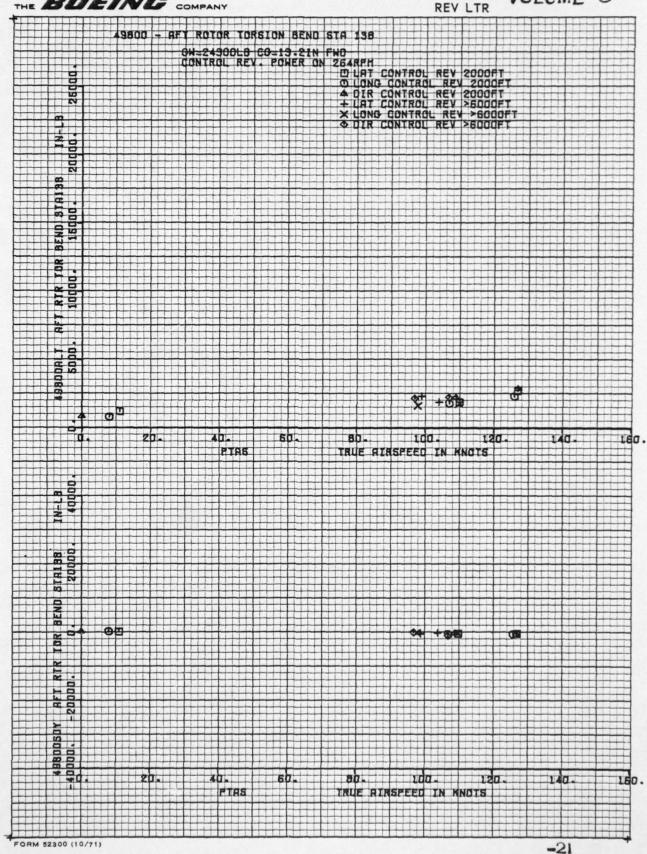




D210-11168-3 NUMBER VOLUME 5



D210-11168-3 NUMBER VOLUME 5



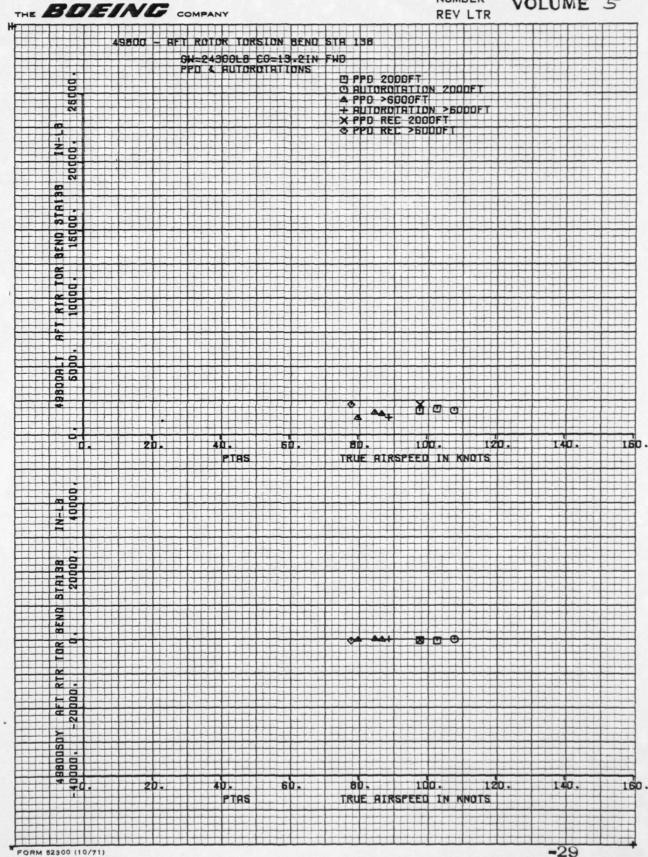
D210-11168-3 NUMBER VOLUME 5 REV LTR

THE BOEING COMPANY

- AFT ROTOR TORSION BEND STA 138 GW=24300LB C9-13-21N FWO 264RPM 38 IN-LR 25000. T FLARE O SPIRAL DESCENT ZD. AD. 60. 80. LOG. LZG. PTAS TRUE RIRSPEED IN KNOTS 160. STATES THE STATE OF THE STATES TO STATES THE 7 20. 20. 40. PTAS 150. TRUE RIRSPEED IN MNOTS FORM 52300 (10/71) -25

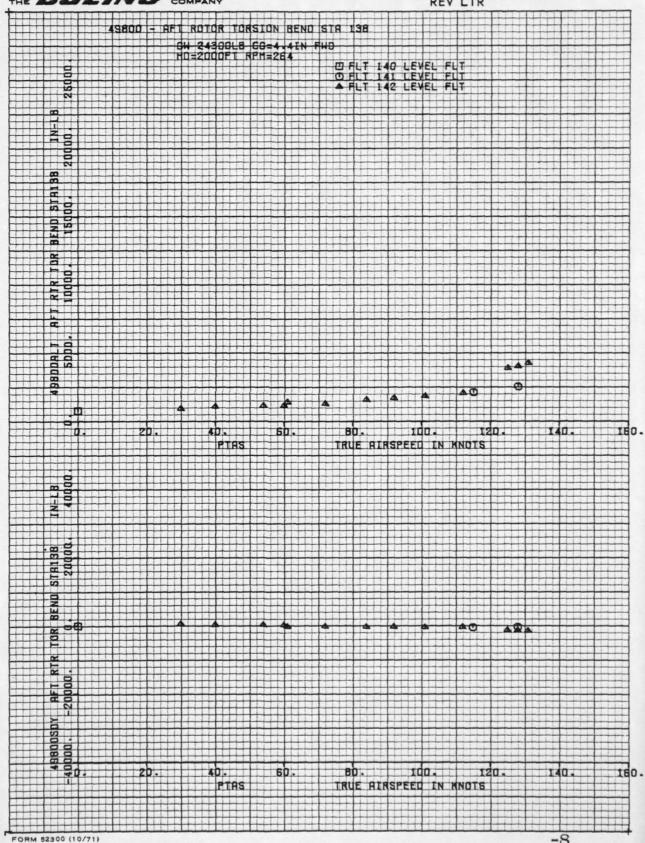
NUMBER

D210-11168-3 VOLUME 5



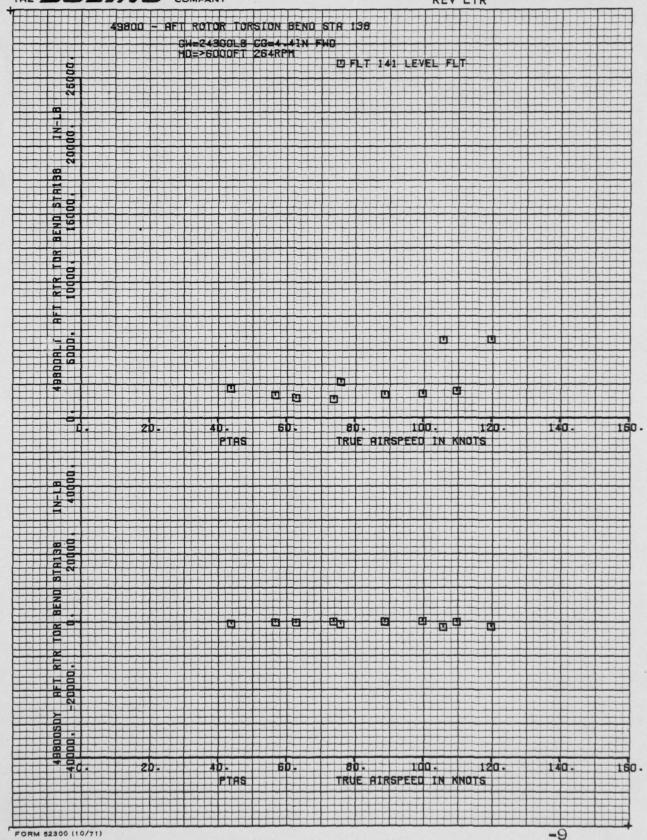
FORM 52300 (10/71)

D210-11168-3 NUMBER VOLUME 5 REV LTR

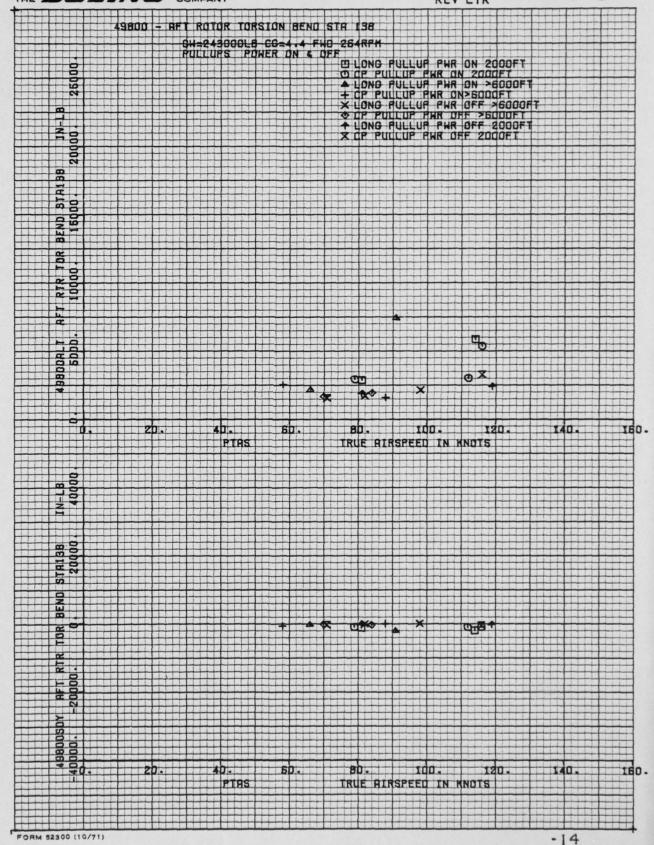


THE BOEING COMPANY

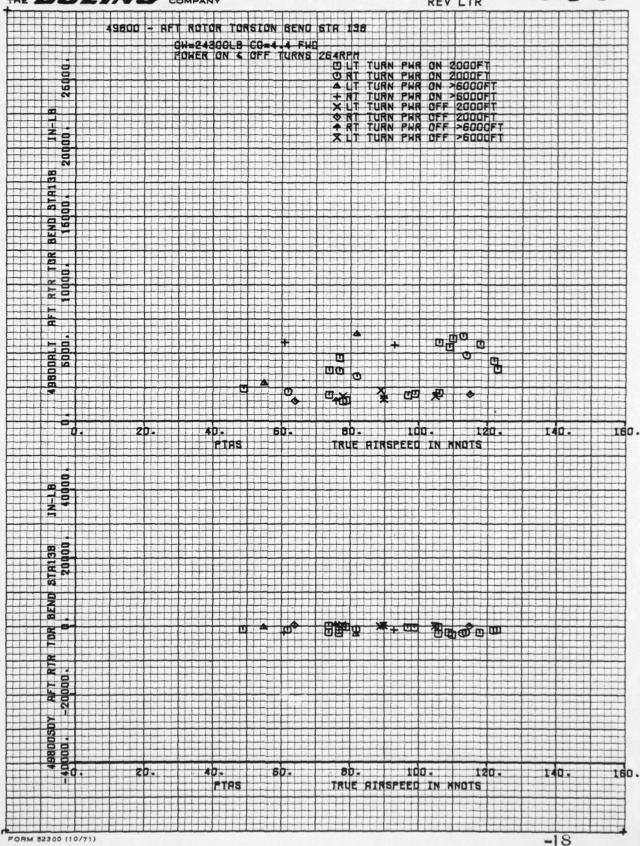
NUMBER , VOLUME 5





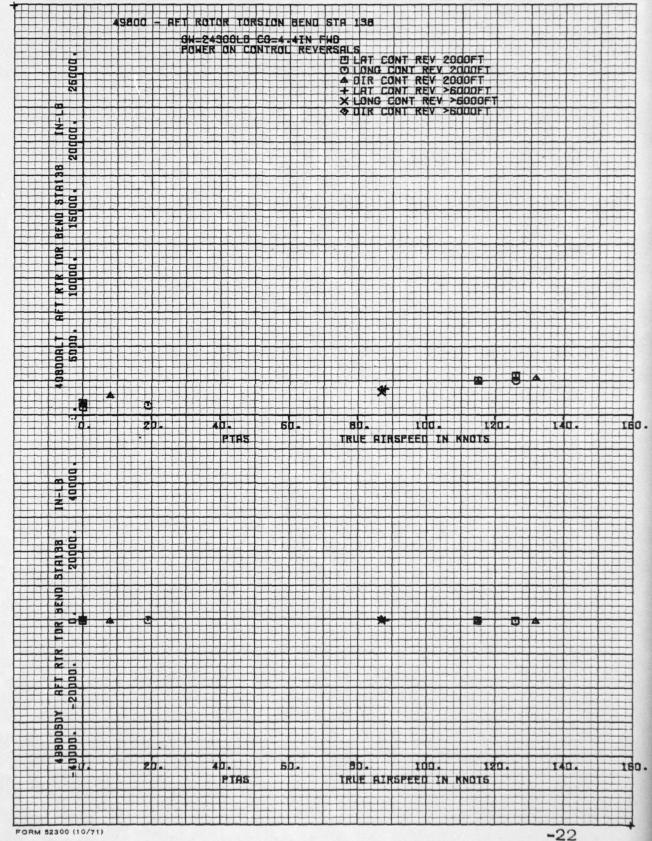


D210-11168-3 NUMBER VOLUME 5 REV LTR



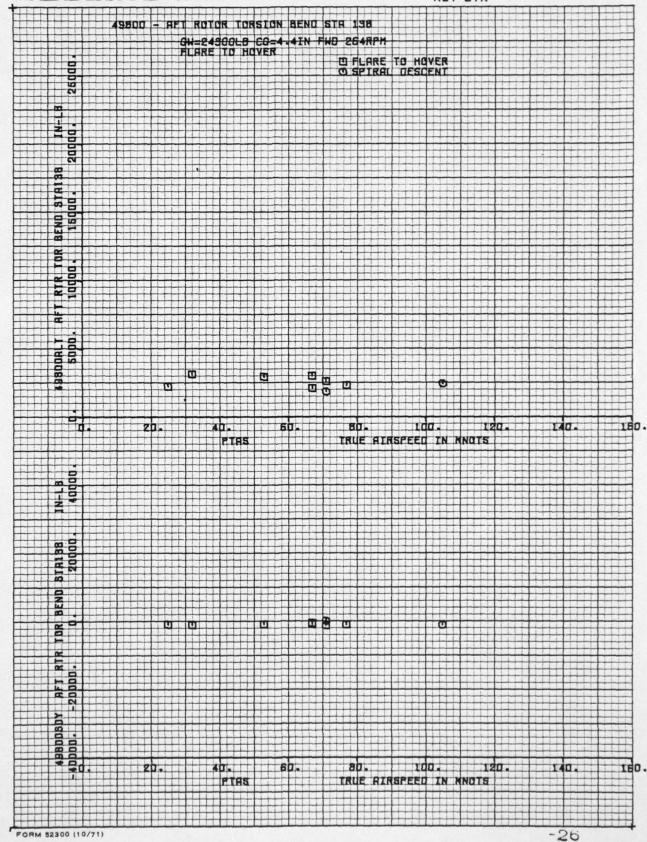
THE BOEING COMPANY

NUMBER REV LTR VOLUME 5

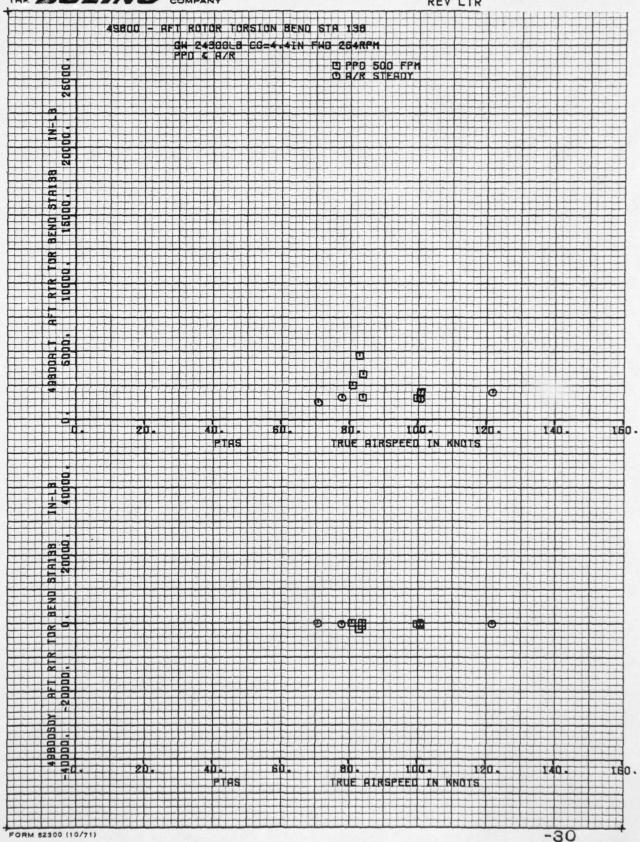


THE BOEING COMPANY

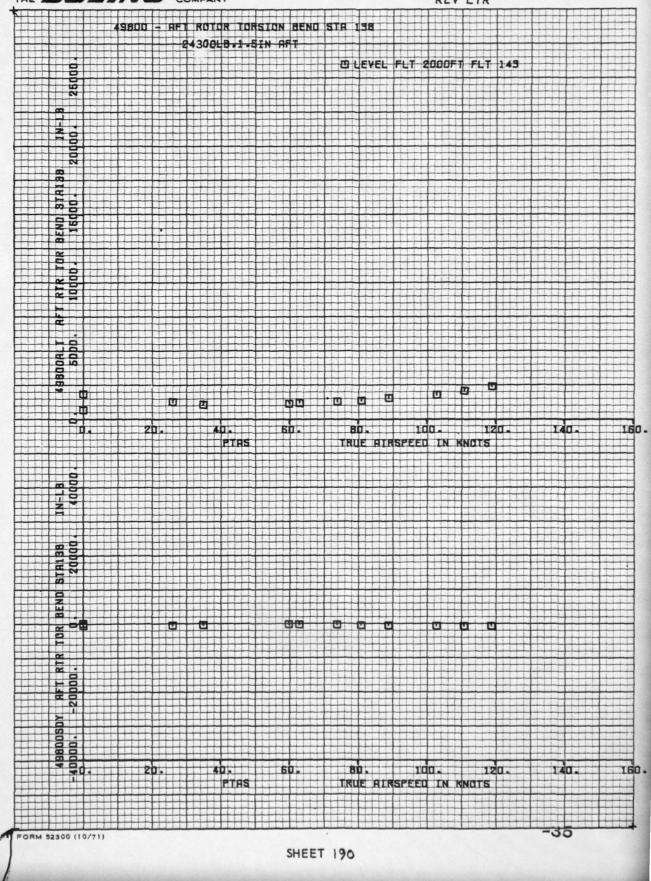
NUMBER REV LTR D210-11168-3 VOLUME 5



D210-11168-8 NUMBER VOLUME 5 REV LTR



D210-11168-3 NUMBER ! VOLUME 5 REV LTR



PREPARED BY: J. Bendo

CHECKED BY:

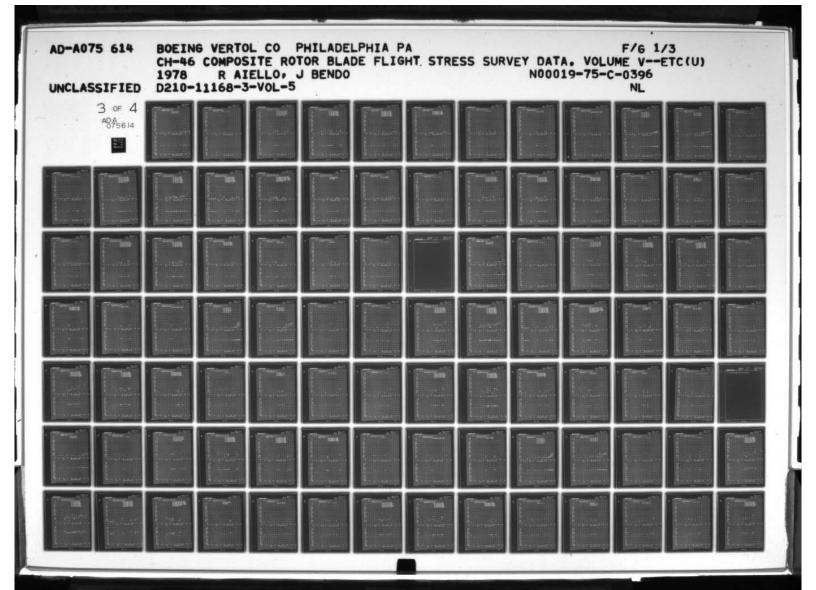
8/28/78

NUMBER D210-11168-3 REV LTR Volume 5

MODEL NO.

THE BOEING COMPANY DATE:

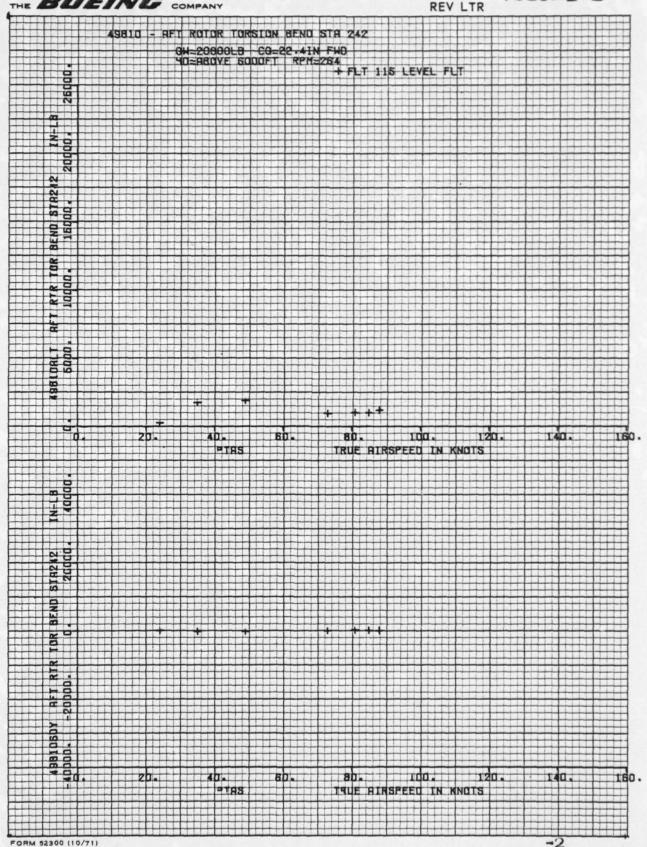
4.6 Aft Blade Torsion Bending Station 242.

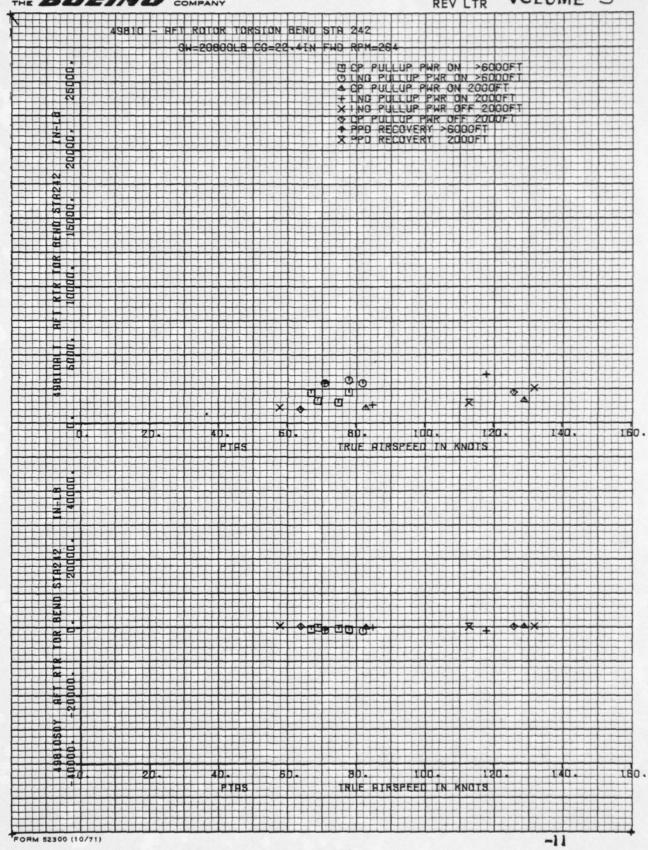


D210-11168-3

NUMBER THE BOEING COMPANY REV LTR 49810 - AFT ROTOR TORSION HEND STR 242 0 FLT 114 LVL FLT + FLT 115 LVL FLT 0 FLT 161 LVL FLT 4 FLT 182 LVL FLT BEND 20- 40- 50. 80. 100. 120. 140. PTAS TRUE AIRSPEED IN MNOTS 28 2000 PIRS TRUE RIRSPEED IN MOUTS 160 . FORM 52300 (10/71)

D210-11168-3 NUMBER ! VOLUME 5

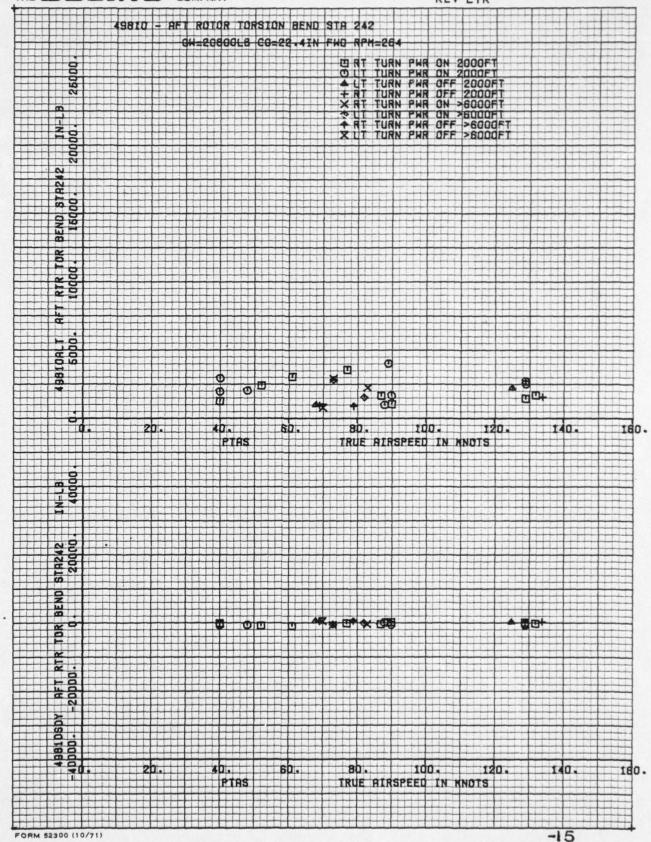




NUMBER REV LTR

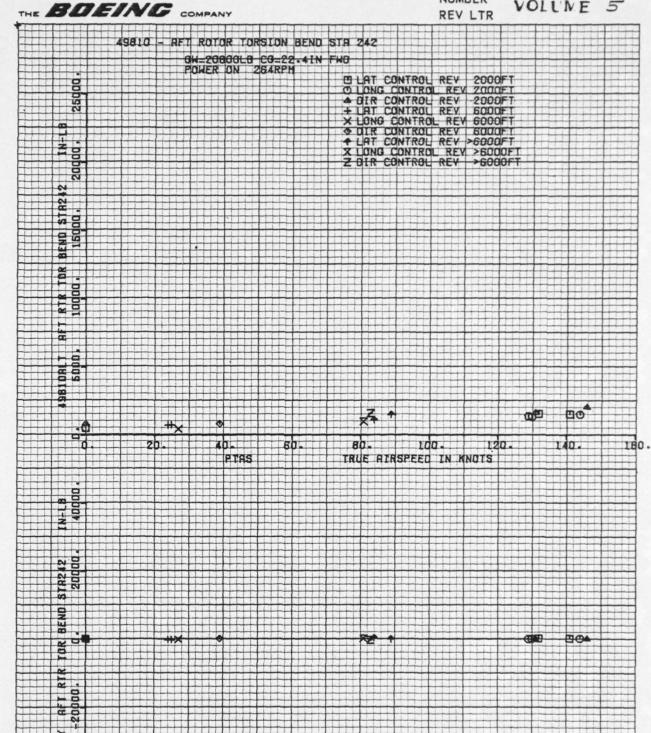
D210-111F8-3 VOLUME 5





NUMBER

D210-11168-3 VOLUNE 5



80. 100. 120.

TRUE ATRSPEED IN KNOTS

140.

-19

160.

5b.

AD.

PTAS

FORM 52300 (10/71)

D210-11168-3 VOLUME 5

-23

NUMBER

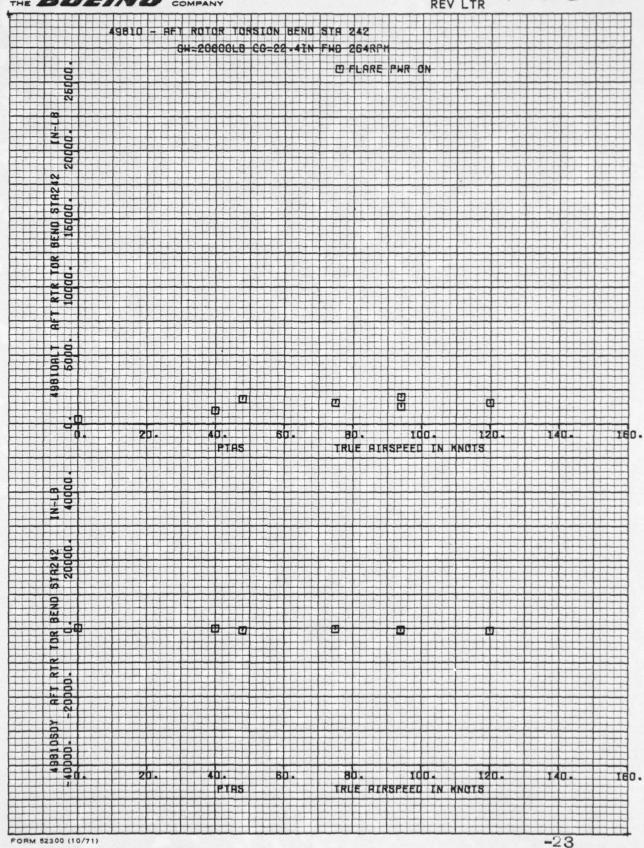
THE BOEING COMPANY REV LTR 9810 - AFT ROTOR TORSION BEND STR 242 GW=2GGGGLB CG=22-4EN FWD FOWER OFF 264RFM B LAT CONTROL REV 2000FT
O LONG CONTROL REV 2000FT
O LAT CONTROL REV 2000FT
LAT CONTROL REV >8000FT
X LONG CONTROL REV >6000FT
Z OIR CONTROL REV >6000FT m BEND STRZ42 H H B B 20. 40. PTAS 80- 100- 120-60-160. PTAS TRUE AIRSPEED IN MNOTS 20. 40. PTAS 80. Ido. 180. TRUE AIRSPEED IN MNOTS

FORM 52300 (10/71)

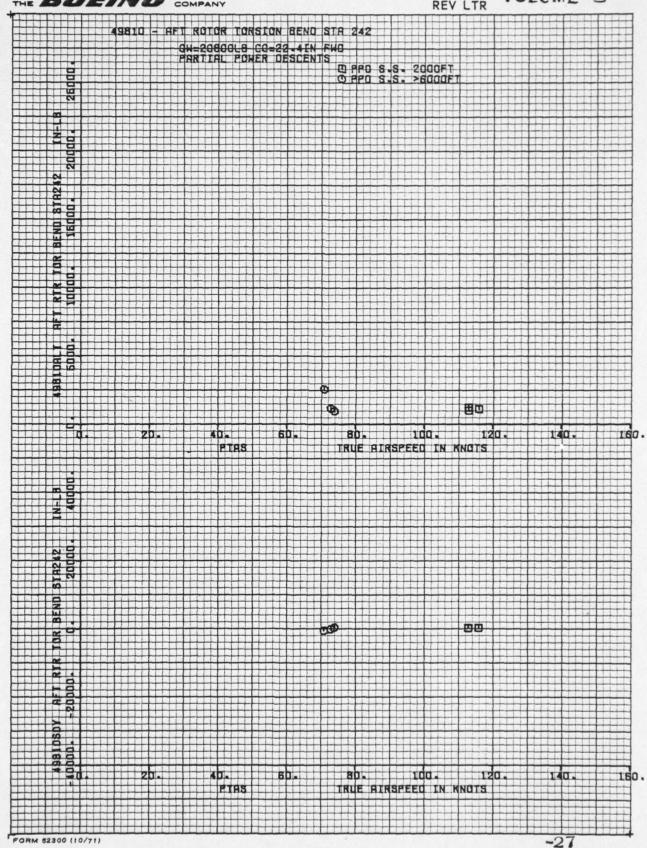
NUMBER REV LTR VOLUME 5

THE BOEING COMPANY

W.b.



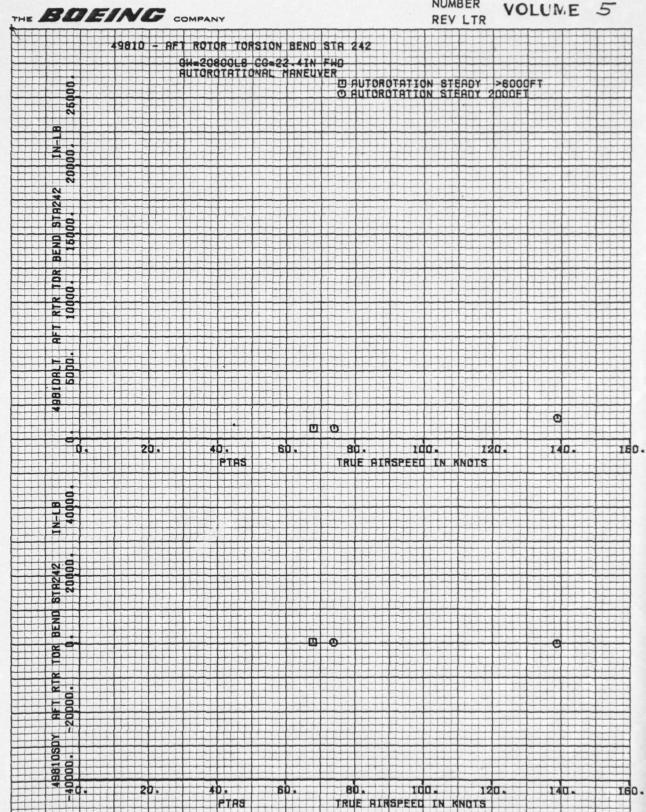
NUMBER REV LTR VOLUME 5



NUMBER

D210-11168-3 VOLUME 5

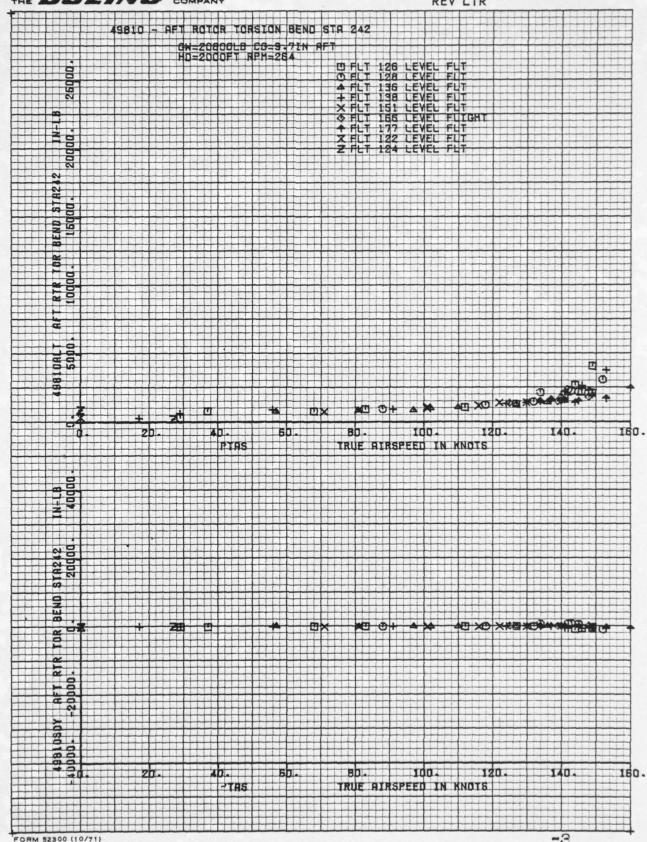
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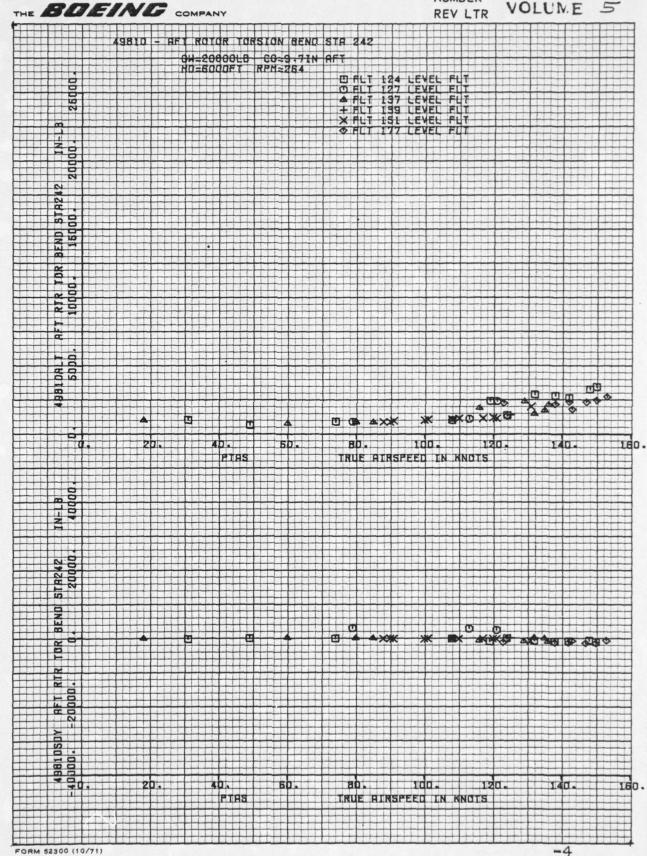
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FORM 52300 (10/71)

NUMBER REV LTR D210-11168-3 VOLUME 5



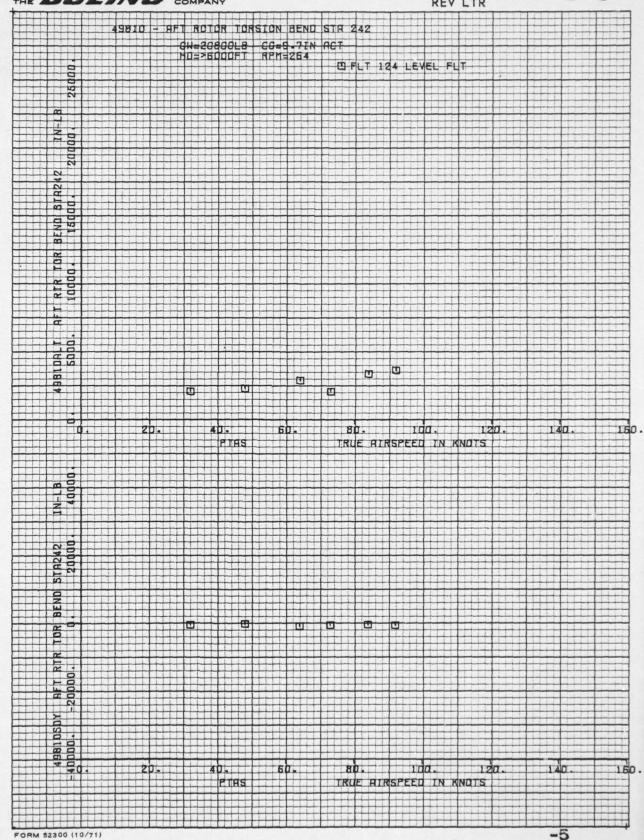
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FORM 52300 (10/71)

THE BOEING COMPANY

NUMBER VOLUME 5



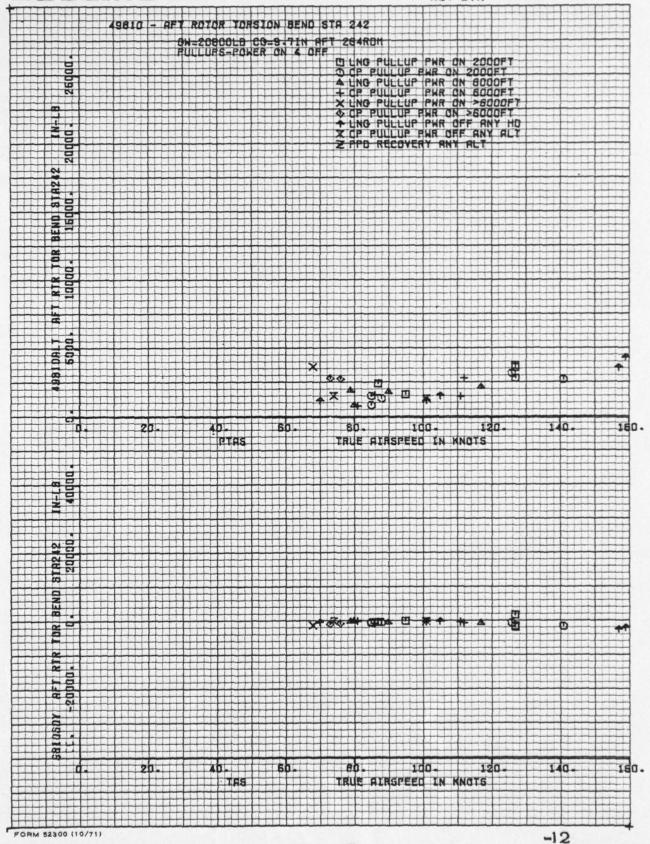
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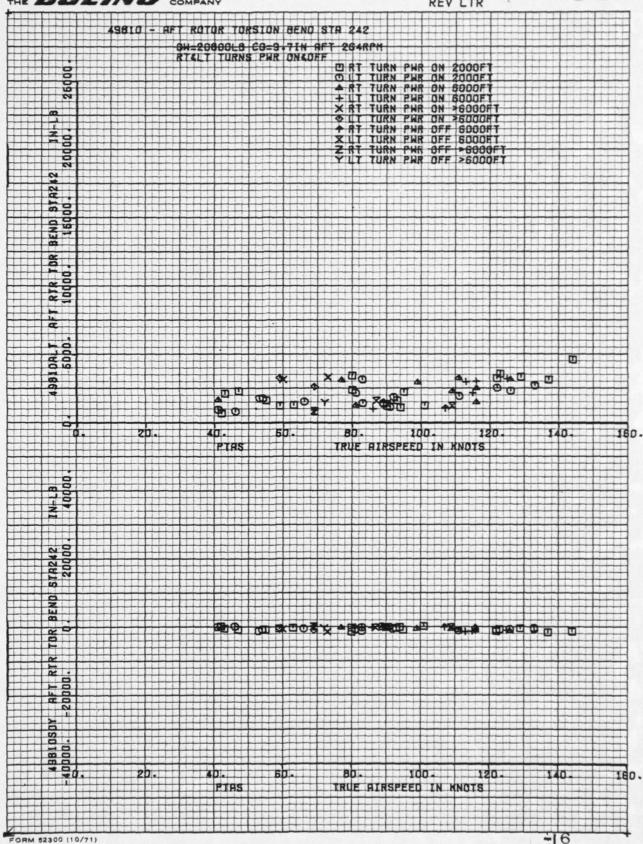
THE BOEING COMPANY

19810 - AFT ROTOR TORSION BEND STA 242 20800LB 9.71N AFT 248 RPM D LEVEL FLIGHT 6000 FT 25000 8ENO STA242 [H-LB 80. 1da. 120. 160. TRUE BIRSPEED IN KNOTS STR212 20000. Bb. 100. 120. 140. 40. 180. PTRS TRUE HIRSPEED IN KNOTS FORM 52300 (10/71)

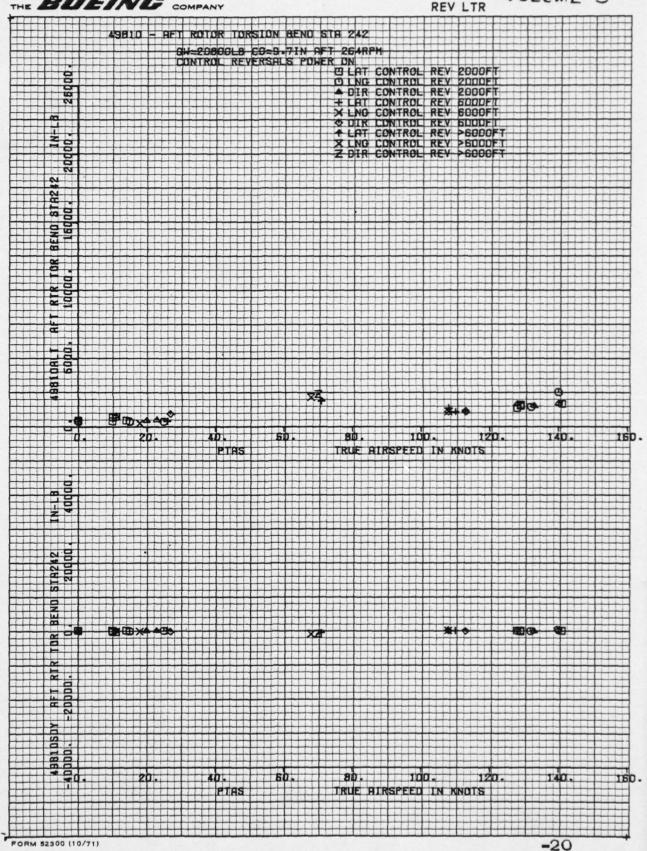
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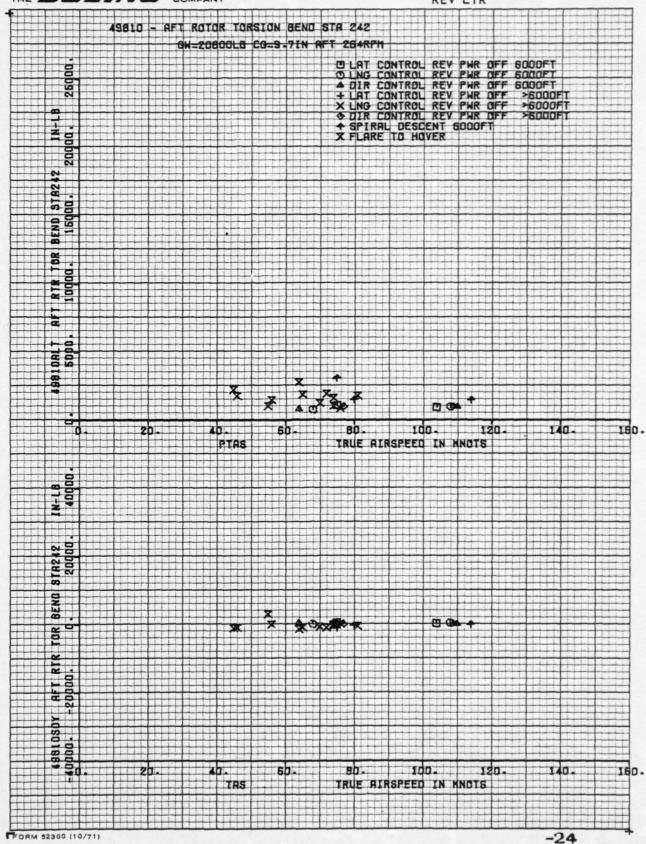




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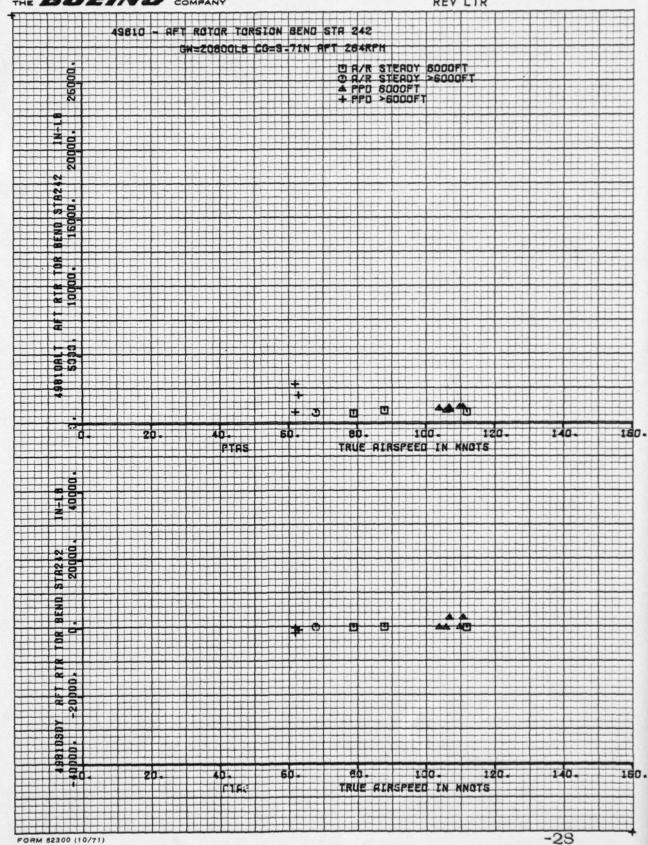


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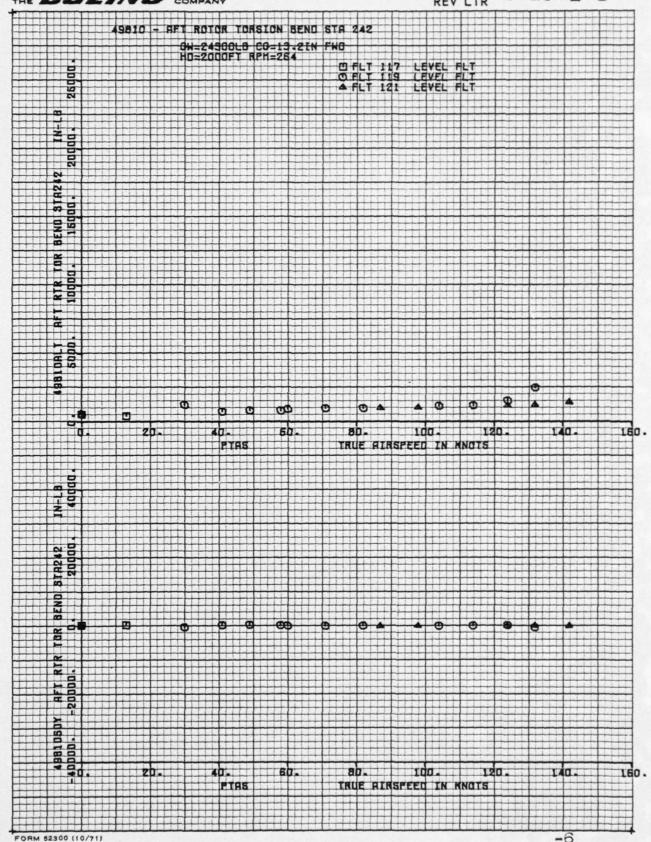


D210-11168-3 VOLUME 5

NUMBER REV LTR



NUMBER VOLUME 5



NUMBER REV LTR VOLUME 5

180.

THE BOEING COMPANY REV LTR 49810 - AFT ROTOR TORSION BENO STR 242

GH=24900LB CG=13-2IN FWD

HD=>6000FT RPH=264

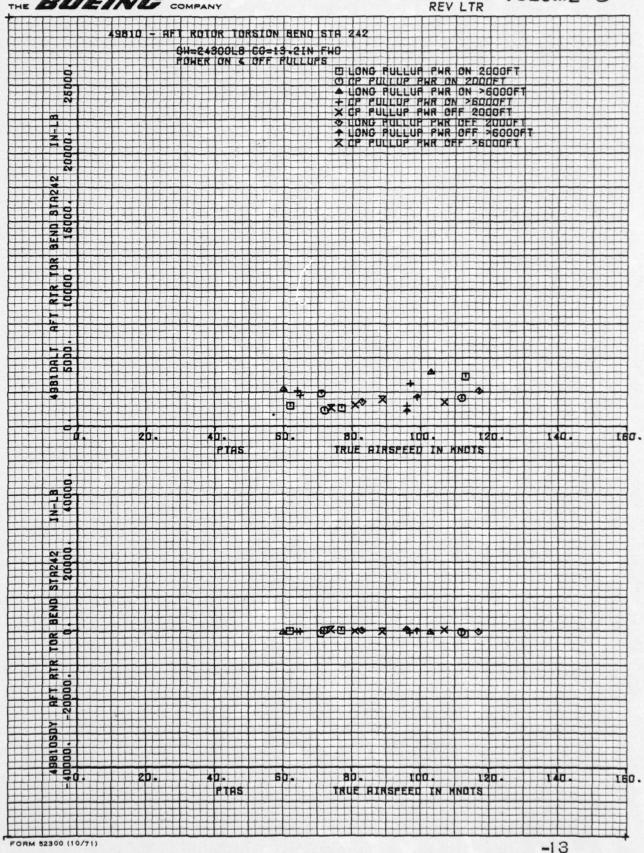
D FLT 121 LEVEL FLT ZD. 4D. 6D. 8D. 100. 120. PTAS TRUE AIRSPEED IN KNOTS TRUE AIRSPEED IN KNOTS STR242 20000.

TRUE AIRSPEED IN KNOTS

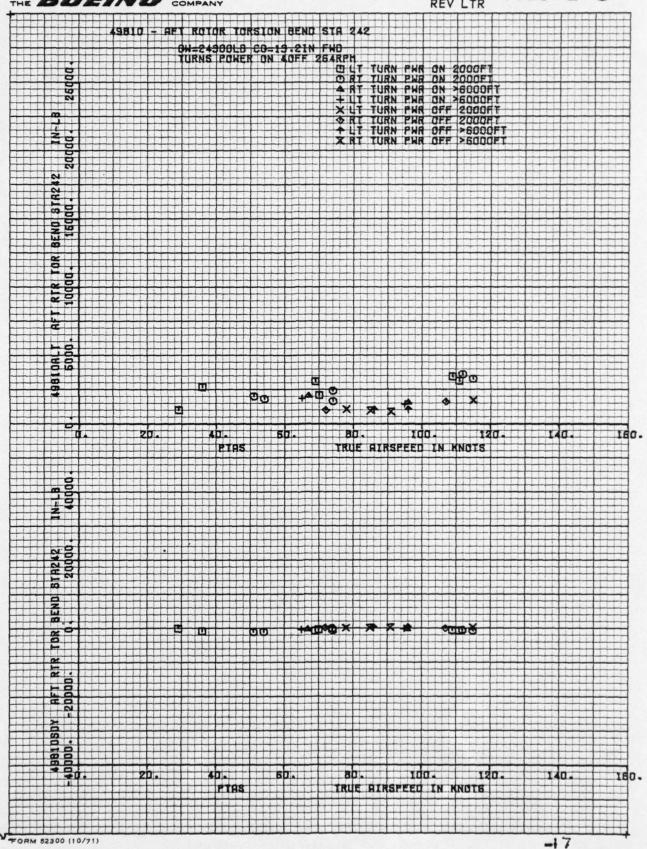
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FORM 52300 (10/71)

D210-11168-3 NUMBER VOLUME 5

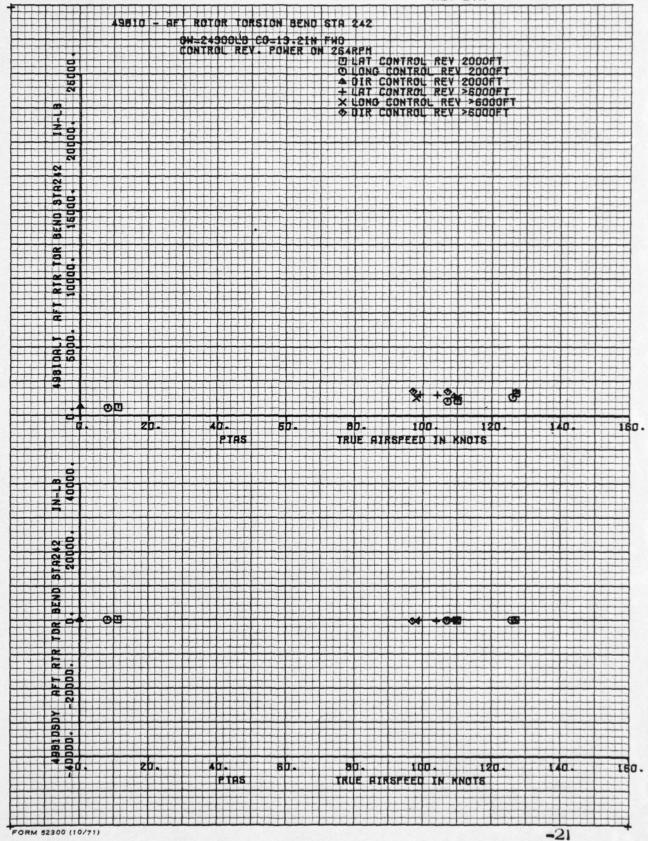


D210-11168-3 NUMBER REV LTR VOLUME 5

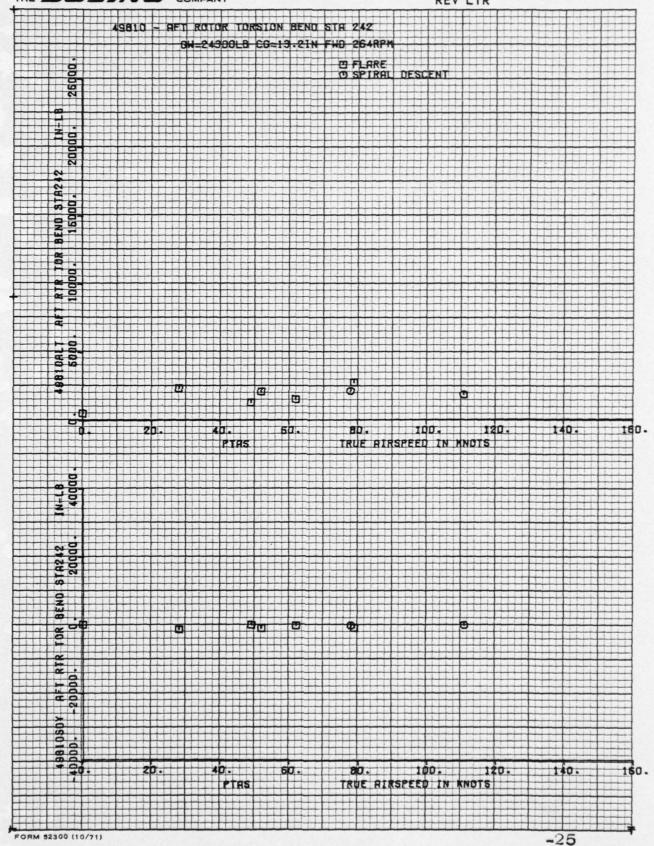


NUMBER REV LTR

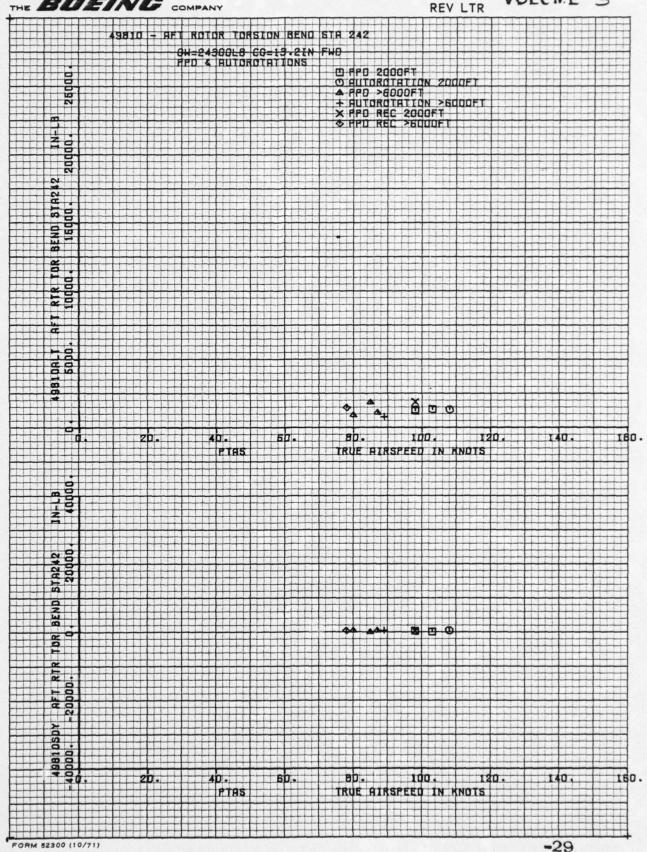
D210-11168-3 VOLUME 5



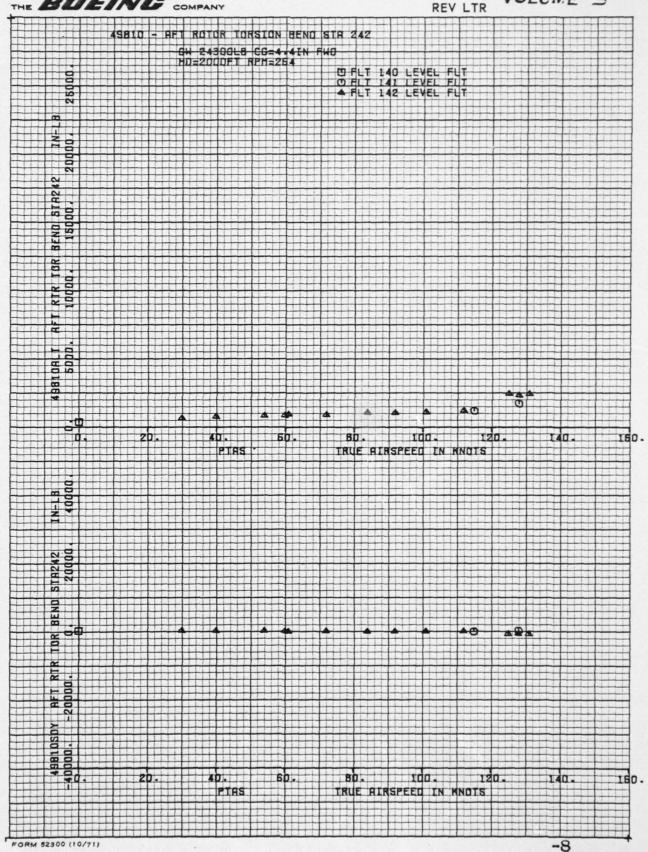
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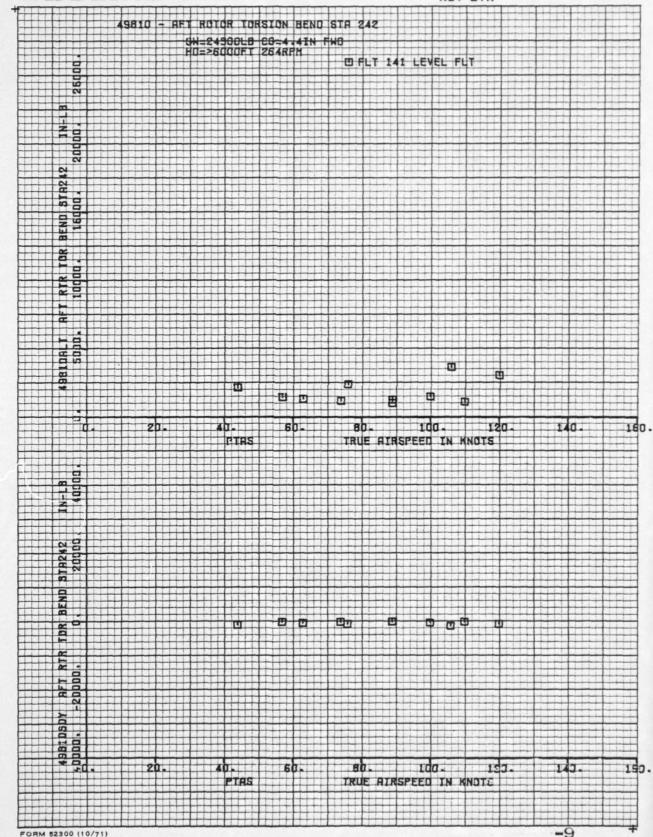
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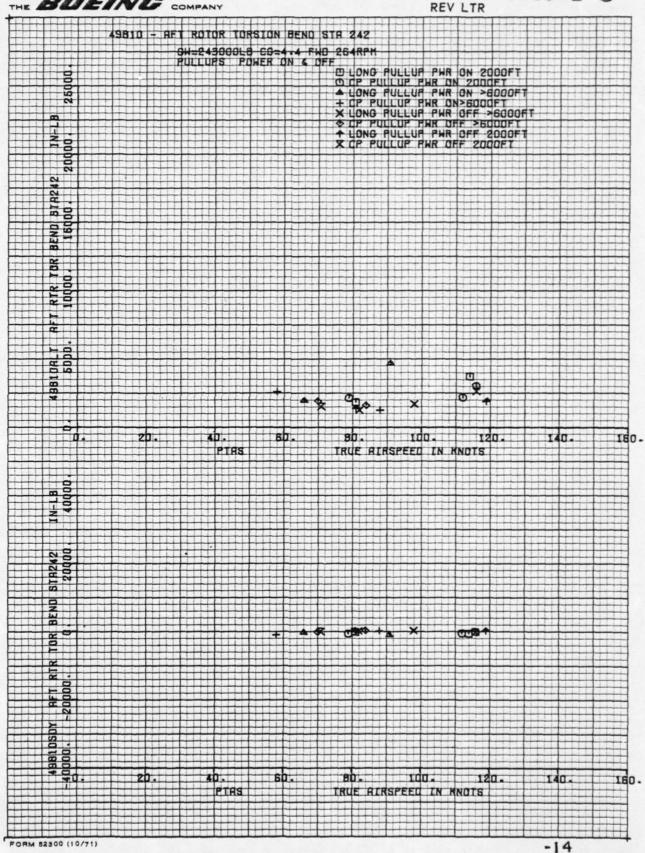


D210-111F8-3 NUMBER! VOLUME 5



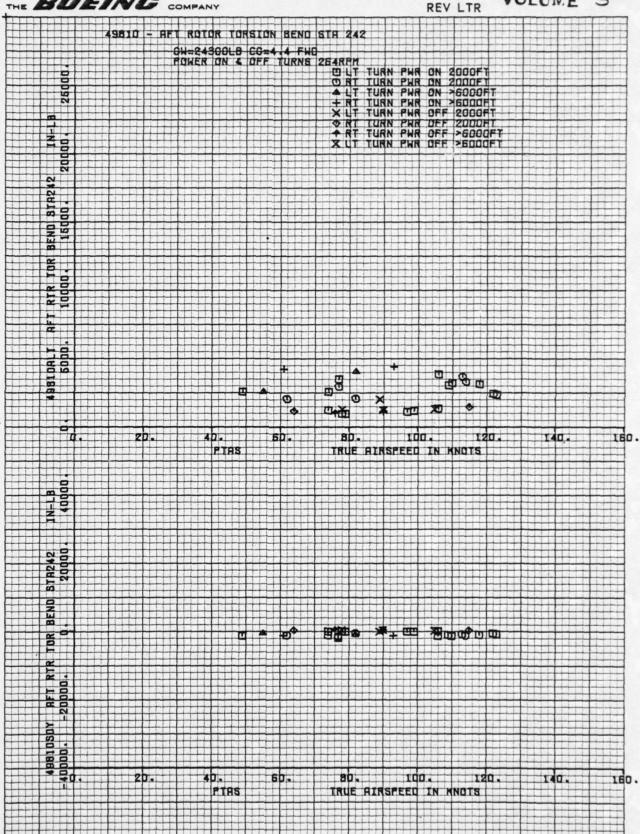
NUMBER | VOLUME 5



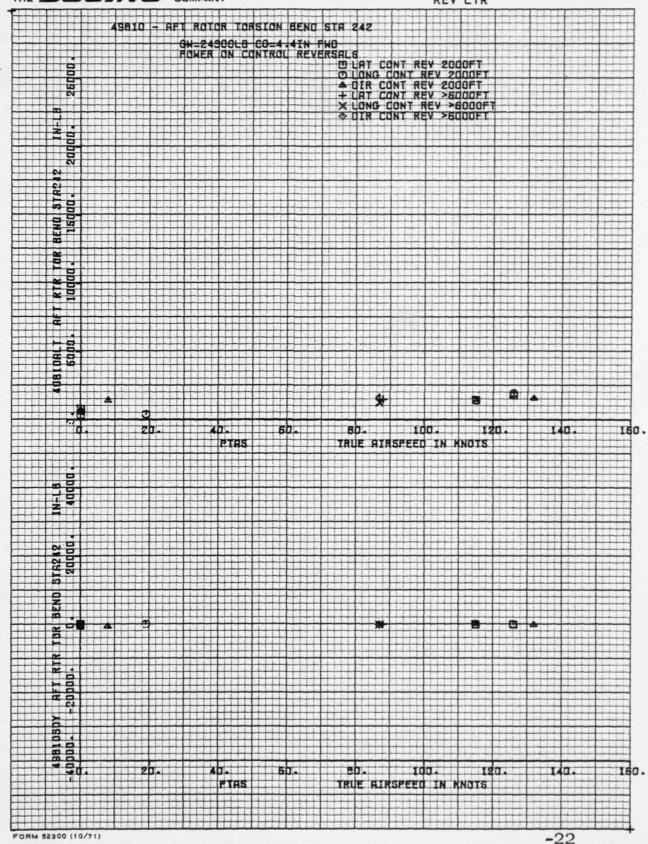


FORM 52300 (10/71)

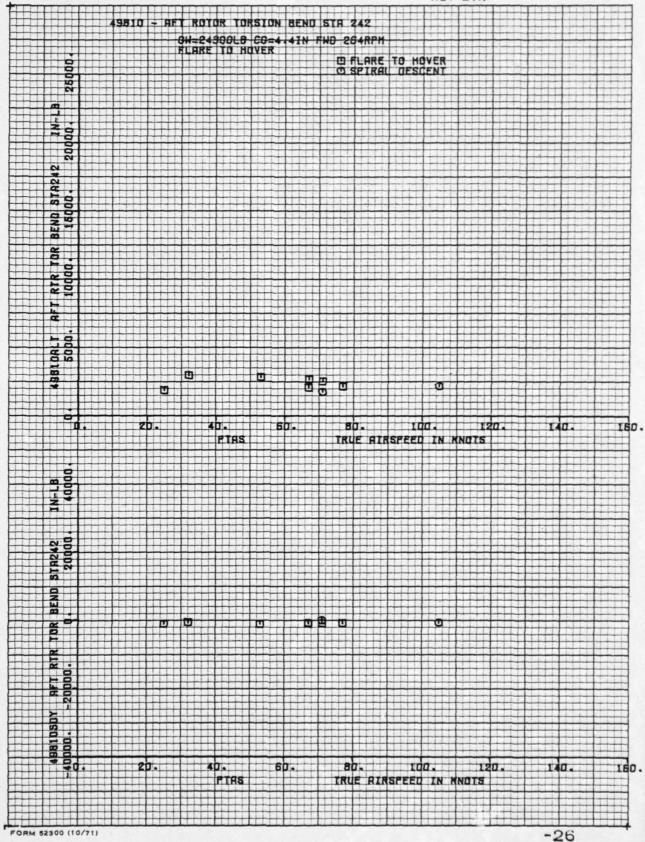
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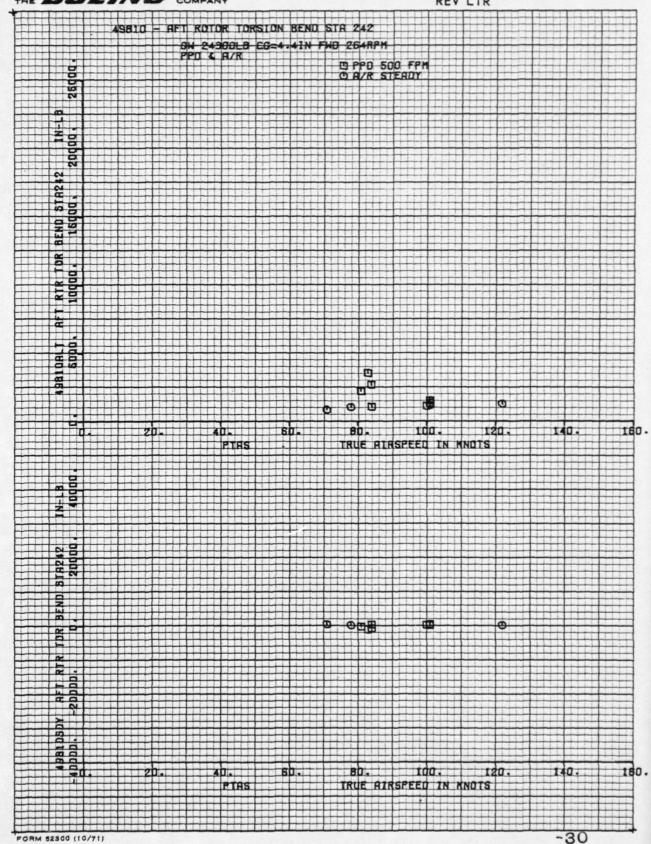
NUMBER REV LTR VOLUME 5



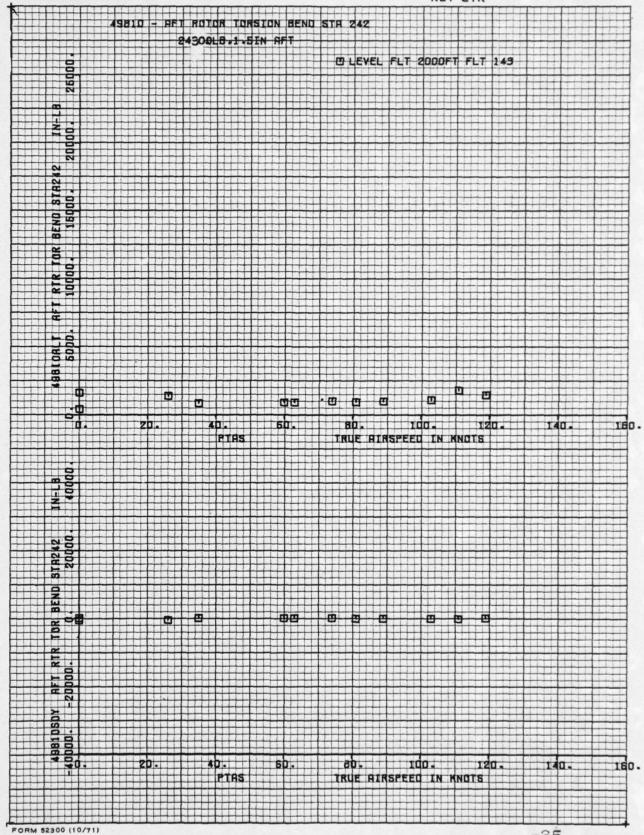
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D210-11168-3 NUMBER VOLUME 5 REV LTR



NUMBER REV LTR VOLUME 5



PREPARED BY: J. Bendo

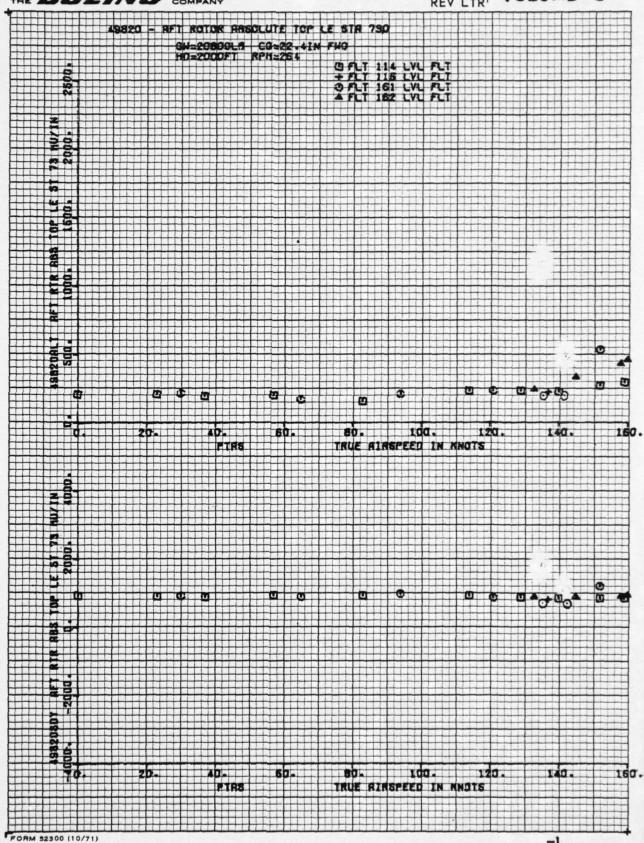
THE BOEING COMPANY DATE:

8/28/78

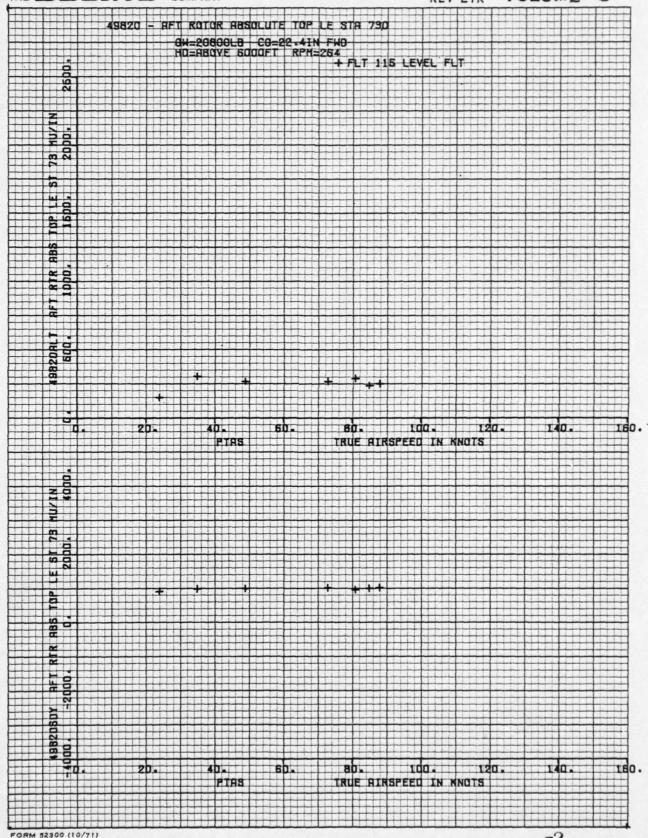
NUMBER D210-11168-3 REV LTR Volume 5

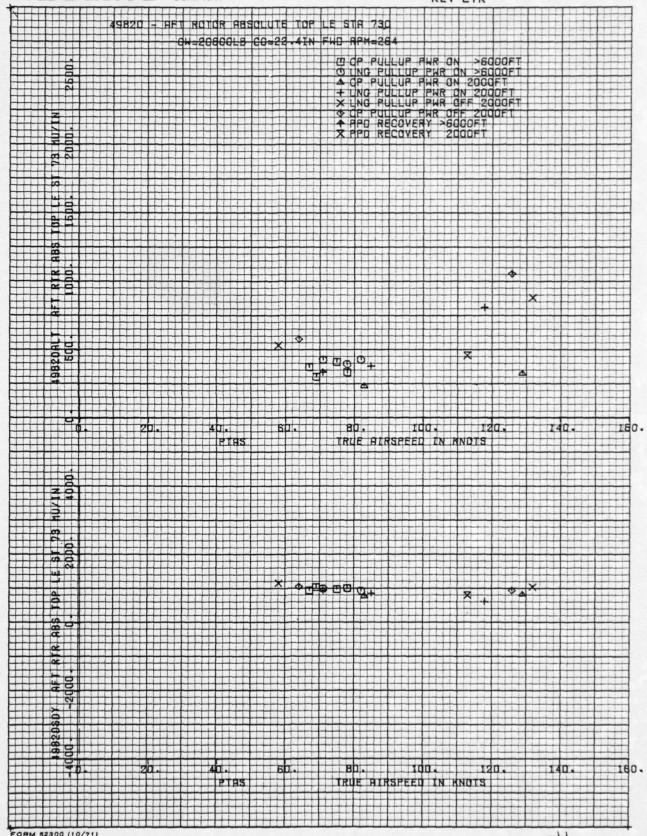
MODEL NO.

4.7 Aft Blade Absolute Top L.E. Station 73.



NUMBER REV LTR VOLUME 5

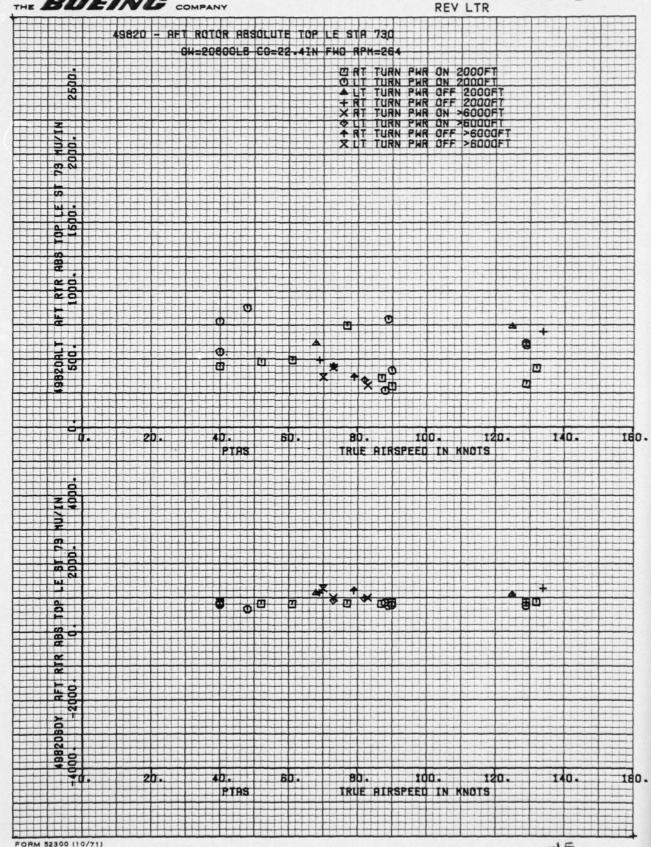




D210-11168-3 VOLUME 5

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NUMBER

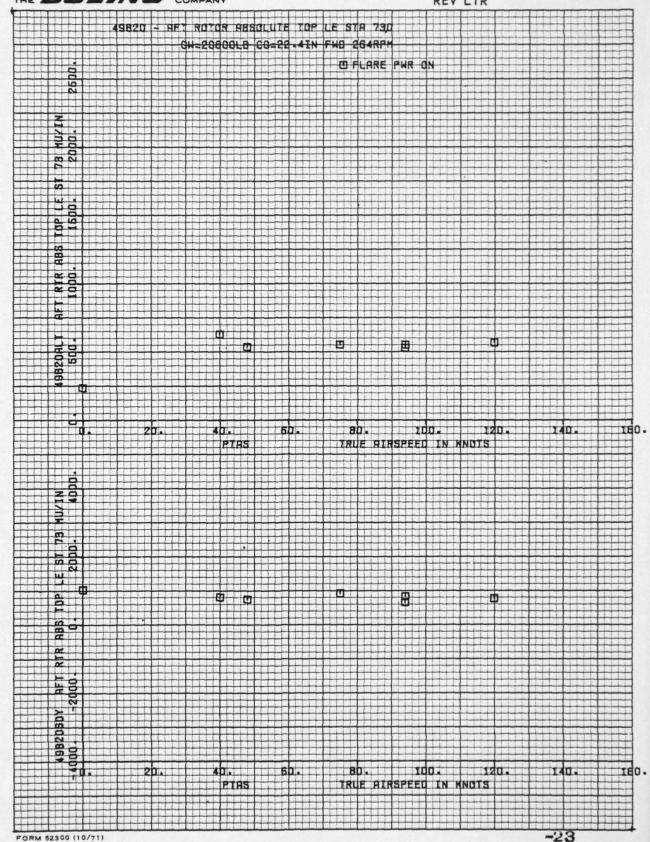


-19

FORM 52300 (10/71)

REV LTR 9820 - RET ROTOR RESOLUTE TOP LE STA 730 GH=20800L8 CG=22-4IN FHO POWER ON 264RPM U LAT CONTROL REV 2000FT
O LONG CONTROL REV 2000FT
LAT CONTROL REV 2000FT
LAT CONTROL REV 6000FT
X LONG CONTROL REV 6000FT
O LAT CONTROL REV 5000FT
LAT CONTROL REV 5000FT
X LONG CONTROL REV >6000FT
X LONG CONTROL REV >6000FT
X LONG CONTROL REV >6000FT
Z GIR CONTROL REV >6000FT N . 73 5 BIR DDD. #98208LT 00 00 2b. 4b. 6b. 8b. 100. 120. PTRS TRUE AIRSPEED IN KNOTS 140. TEO. ADD A 00 40. 80- 100-140. 180 PTAS TRUE AIRSPEED IN KNOTS

NUMBER VOLUME 5



NUMBER V

D210-11168-3 VOLUME 5

-23

THE BOEING COMPANY REV LTR 49820 - AFT ROTOR ABSOLUTE TOP LE STA 730 CH=208COLB CG=22-4IN FHO POWER OFF 264RPM D LAT CONTROL REV 2000FT O LONG CONTROL REV 2000FT

DIR CONTROL REV 2000FT

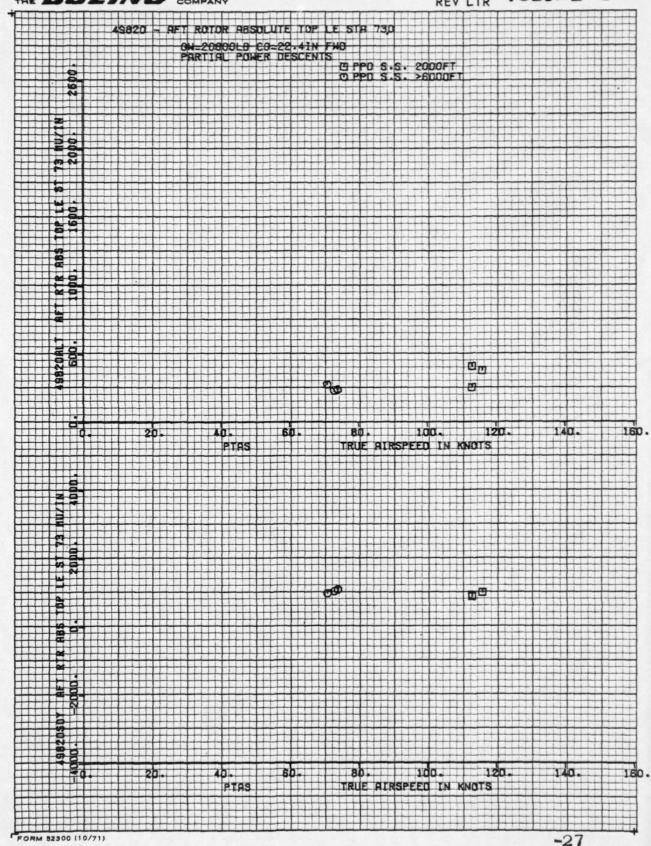
LAT CONTROL REV >6000FT

X LONG CONTROL REV >6000FT

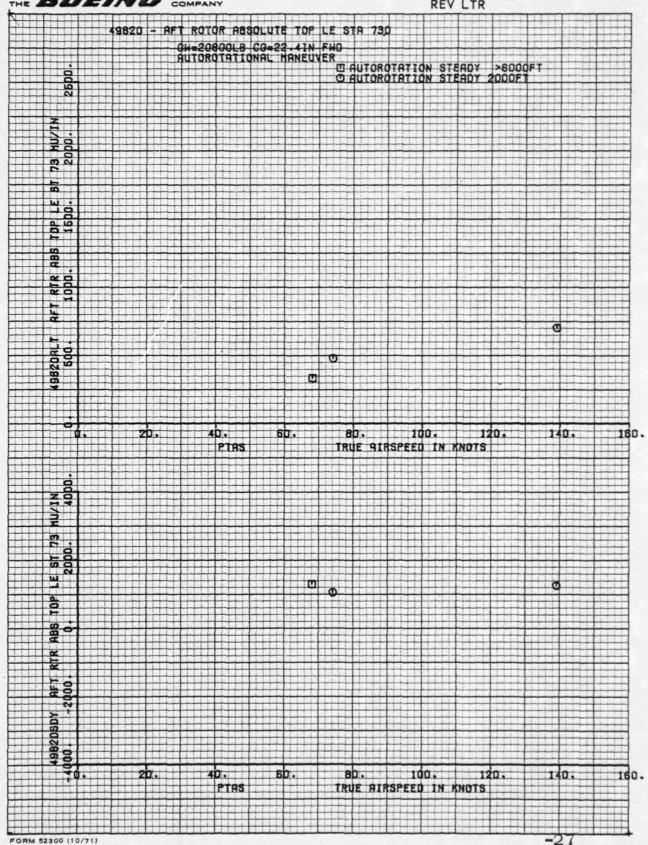
Z DIR CONTROL REV >6000FT 73 5 NTR DDD. 40 BBZDAL T 5q0. 50. 80. 1da. 160 . PTAS TRUE AIRSPEED IN KNOTS 40 472 80. 1da. 160 . PTAS TRUE AIRSPEED IN MNOTS

FORM 52300 (10/71)

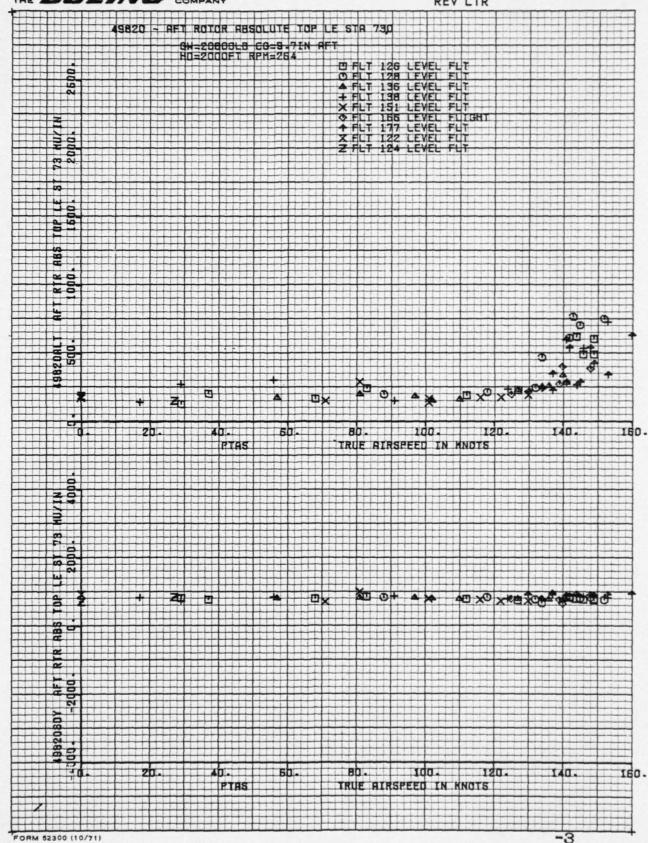
NUMBER REV LTR VOLUME 5



NUMBER REV LTR VOLUME 5



NUMBER VOLUME 5



D210-11168-3 NUMBER VOLUME 5

THE BOEING COMPANY

FORM 52300 (10/71)

REV LTR 49820 - AFT ROTOR ABSOLUTE TOP LE STA 730 GH=20800LB CG=9.7IN AFT HD=600DFT RPM=264 D FLT 124 LEVEL FLT 4 FLT 197 LEVEL FLT X FLT 151 LEVEL FLT S FLT 177 LEVEL FUT 63 AD 20. 40. 50. 80. 100. 120. PIAS TRUE HIRSPEED IN KNOTS 8 20. 40. 50. 80. 100. 120. TRUE PIRSPEED IN KNOTS

NUMBER REV LTR VOLUME 5

THE BOEING COMPANY

49820 - HET ROTOR RESOLUTE TOP LE STA 73,0 2500, 73 NUZIN 2000: 46 160 AFT RTR TODD. O. 20. 40. 50. 80. 100. 120. PIRS TRUE AIRSPEED IN KNOTS 160. 160. PTAS TRUE AIRSPEED IN KNOTS FORM 52300 (10/71)

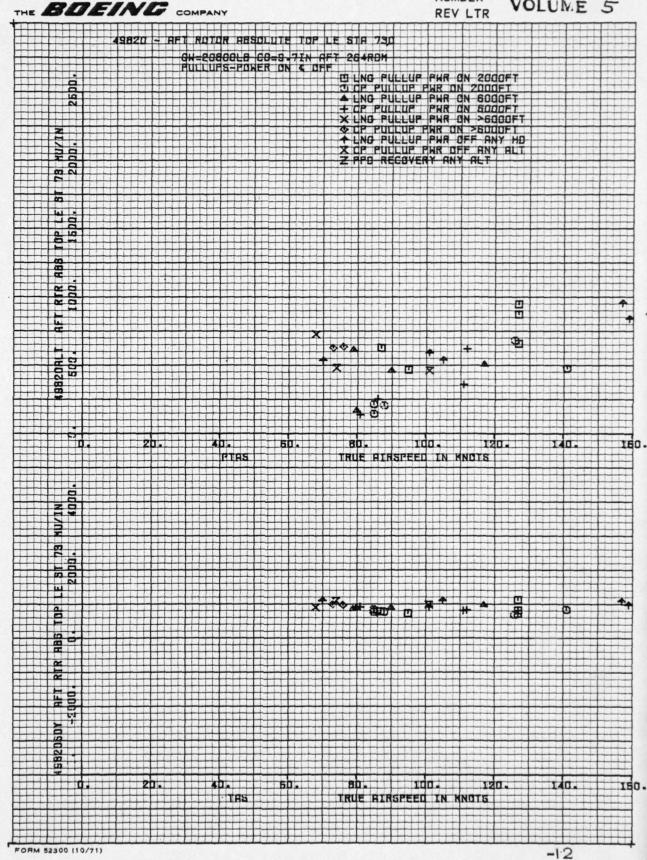
D210-11168-3 VOLUME 5

NUMBER REV LTR

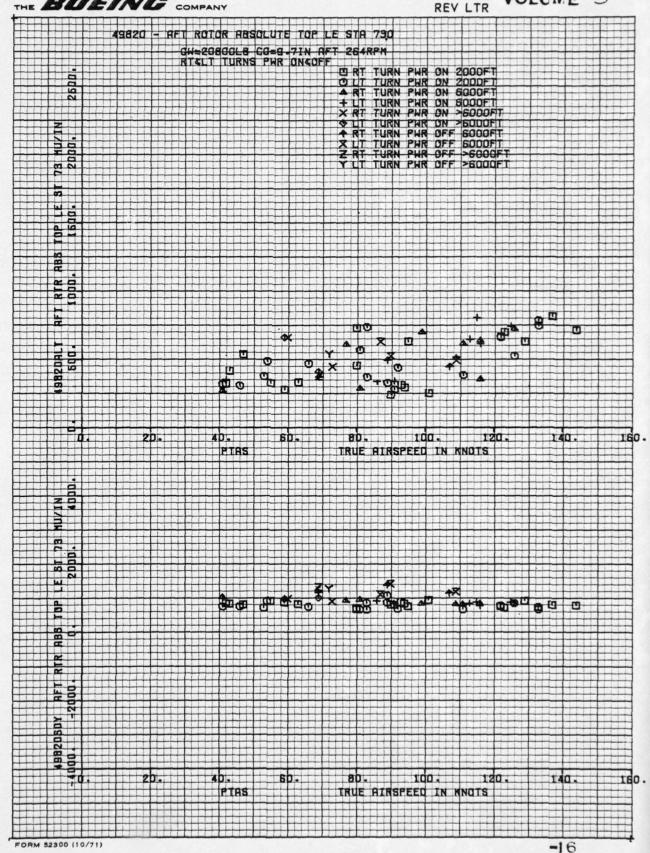
THE BOEING COMPANY 49820 - AFT ROTOR ABSOLUTE TOP LE STA 730 20800LB 9.71N AFT 248 RPM O LEVEL FLIGHT 6000 FT 5 20. 40. 60. 80. 100. 120. PTHS TRUE BIRSPEED IN KNOTS 150 -ABS TOP 80. 100. 20. 40. PTAS TRUE RIRSPEED IN KNOTS

FORM 52300 (10/71)

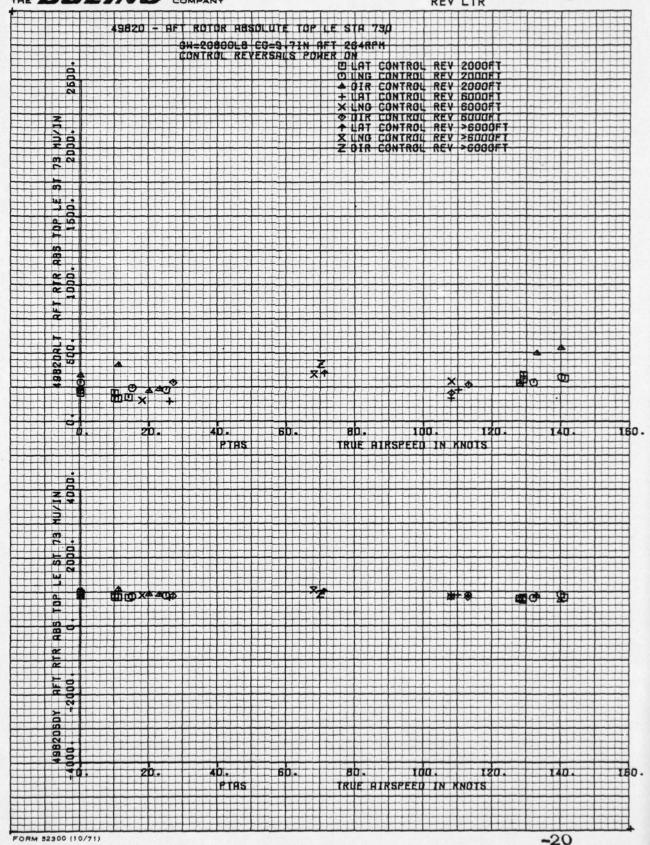
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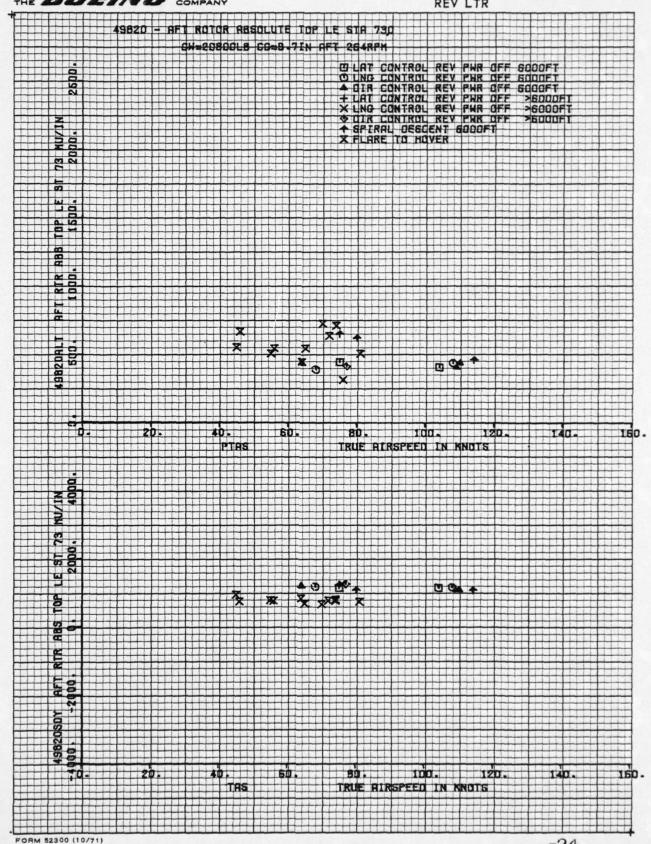
D210-11168-3 NUMBER VOLUME 5



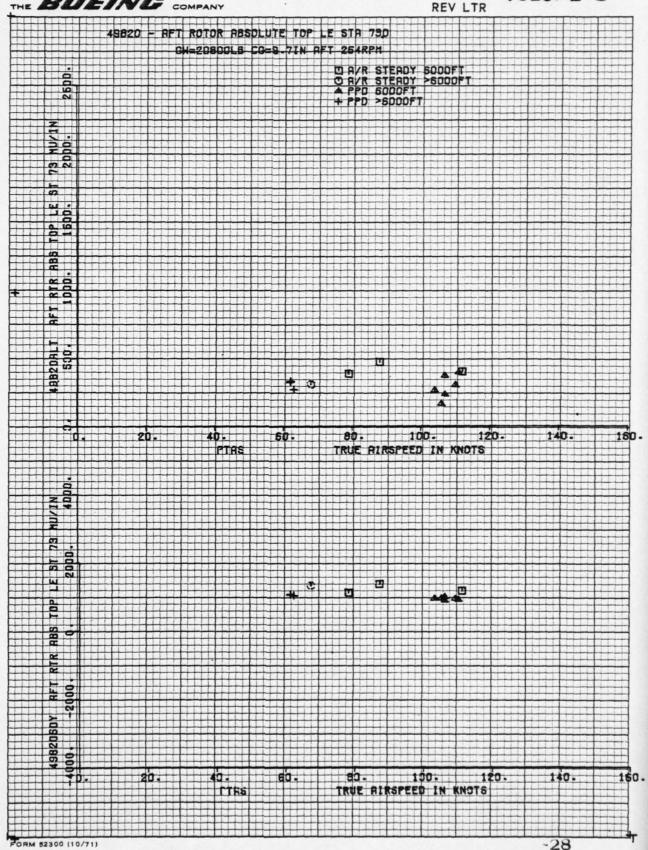
NUMBER POLUME 5



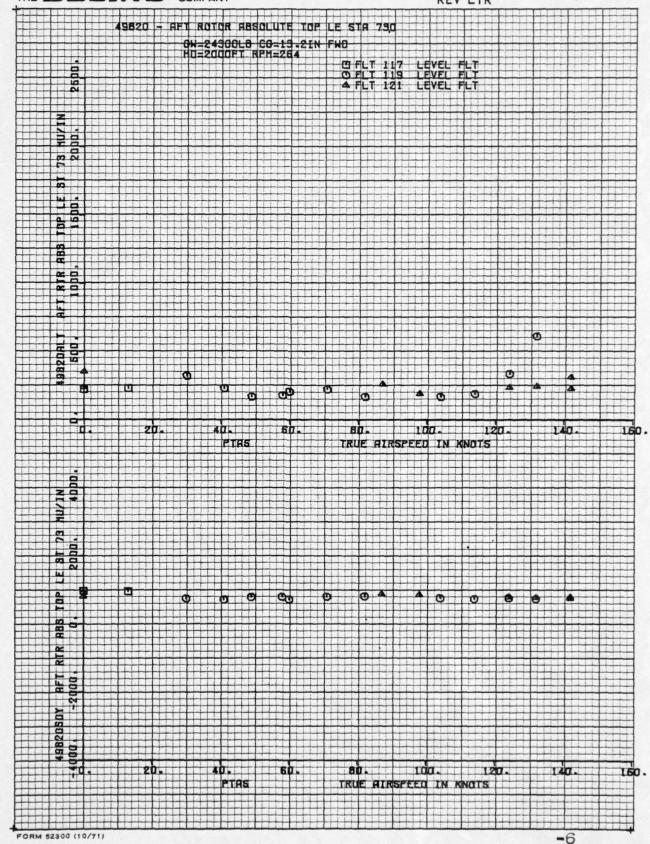
NUMBER REV LTR VOLUME 5



D210-11168-3 NUMBER VOLUME 5

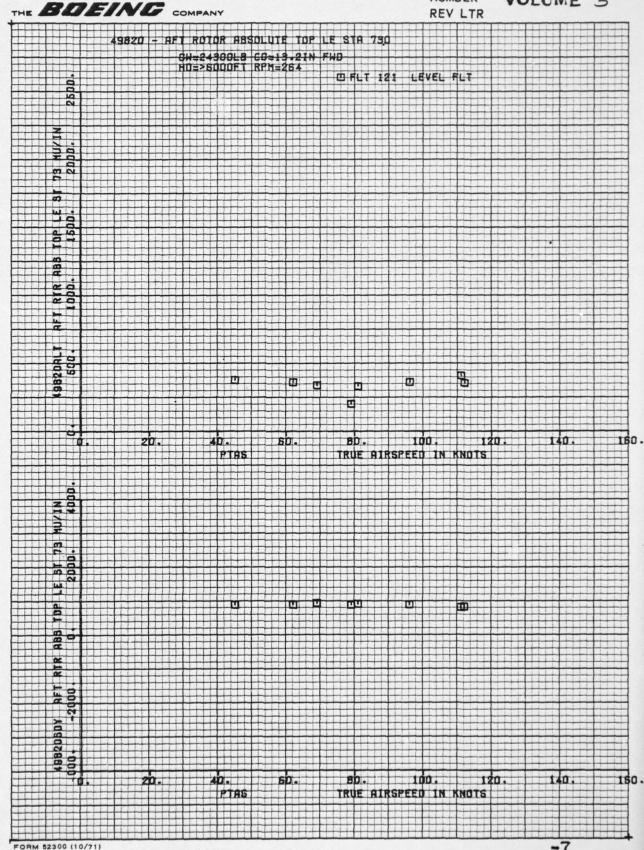


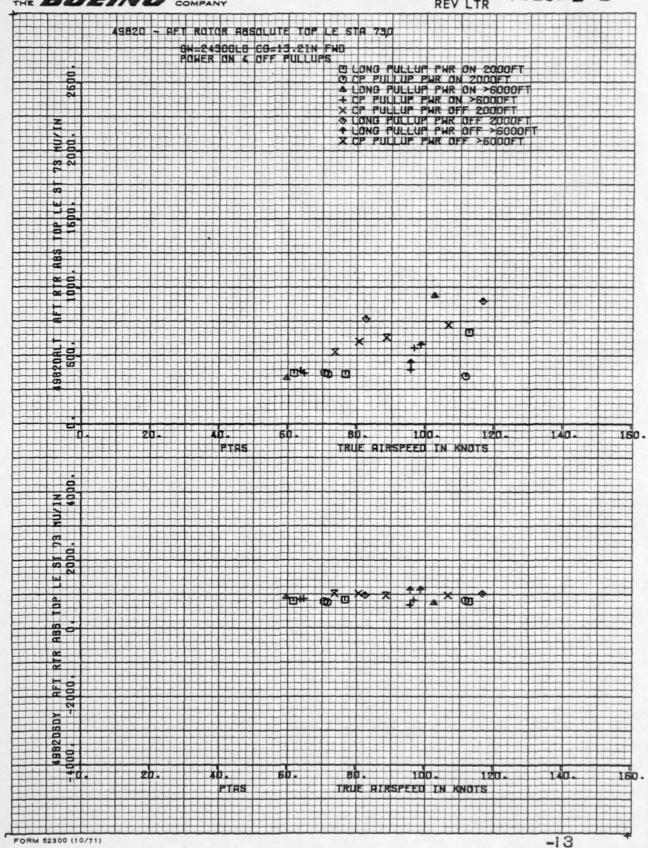
NUMBER REV LTR VOLUME 5

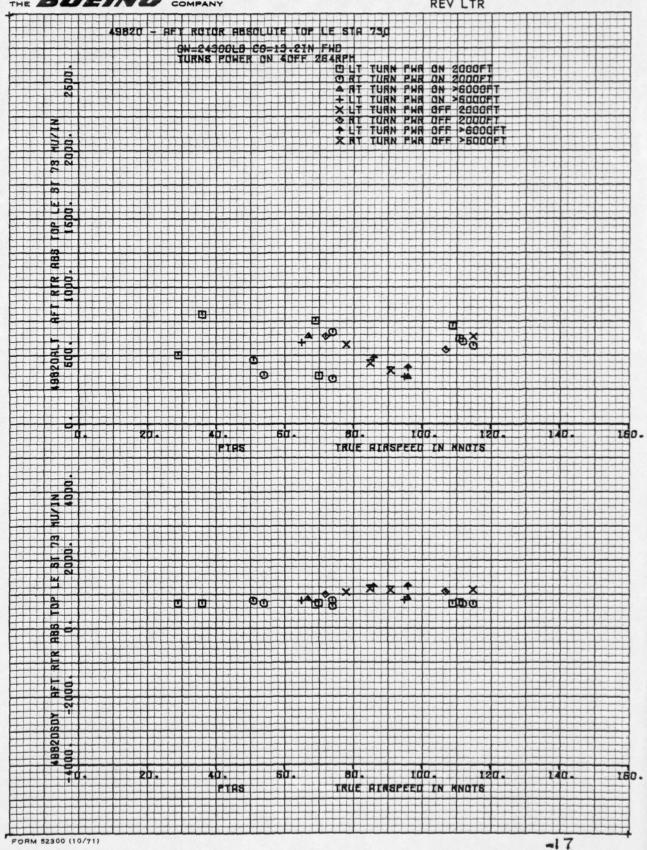


D210-11168-3 VOLUME 5

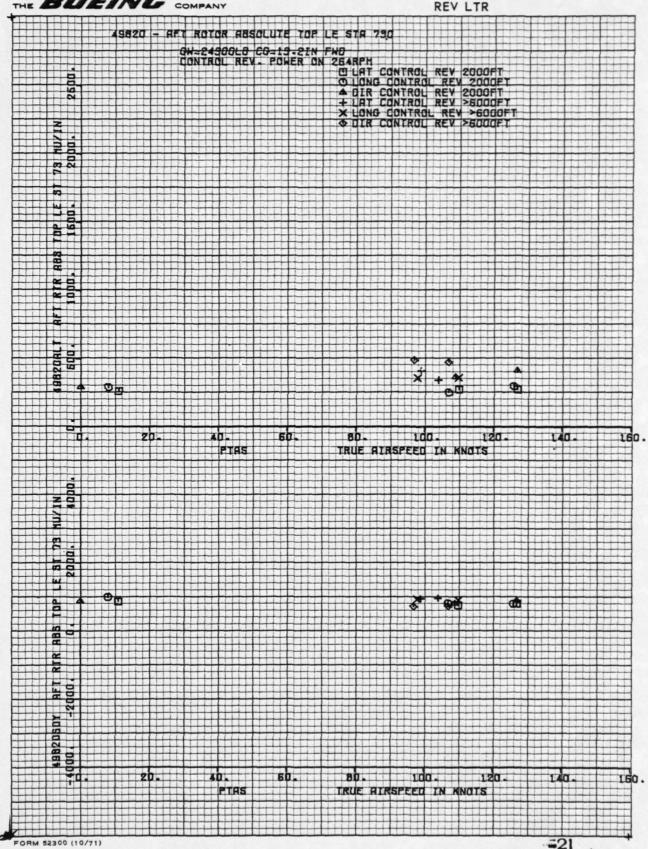
NUMBER







D210-11168-3 NUMBER VOLUME 5



NUMBER | VOLUME 5

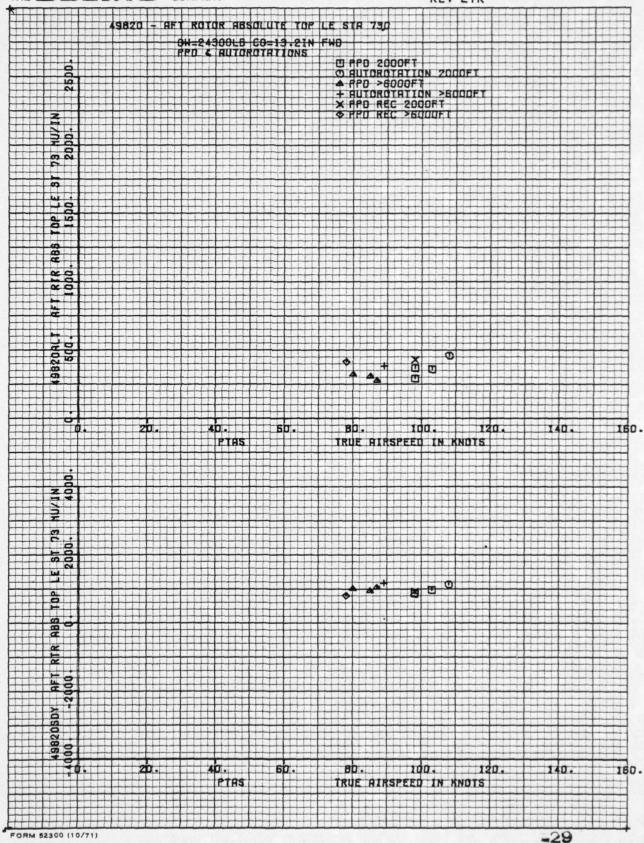
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THE BOEING COMPANY

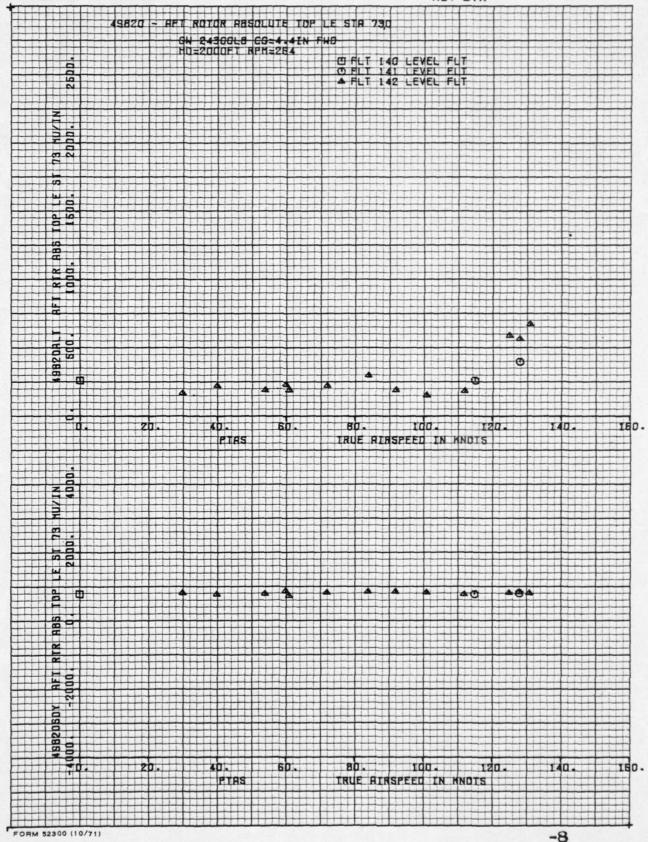
FORM 52300 (10/71)

9820 - AFT ROTOR ABSOLUTE TOP LE STA 730 0H-24300LB CO-13.2IN FND 264RPM O SPIRAL DESCENT 2500. 73 1 3 i T RTR 1000. 4000. 20. 40. 50. 80. 100. 120. 160. TRUE HIRSPEED IN MNOTS 2000. 80. 1da. 12a. 140. 160. PTAS TRUE PIRSPEED IN MNOTS

NUMBER REV LTR VOLUME 5



D210-11168-3 NUMBER VOLUME 5



NUMBER VOLUME 5

THE BOEING COMPANY 49820 - AFT ROTOR ABSOLUTE TOP LE STA 730 w a 9 9 1982DRL 500. d. 20. 40. 50. 80. 100. 120. PTAS TRUE AIRSPEED IN MNOTS 160. i d ST 73 **W** OC. 60. 80. 100. 120. TRUE AIRSPEED IN KNOTS 40. 140. 150.

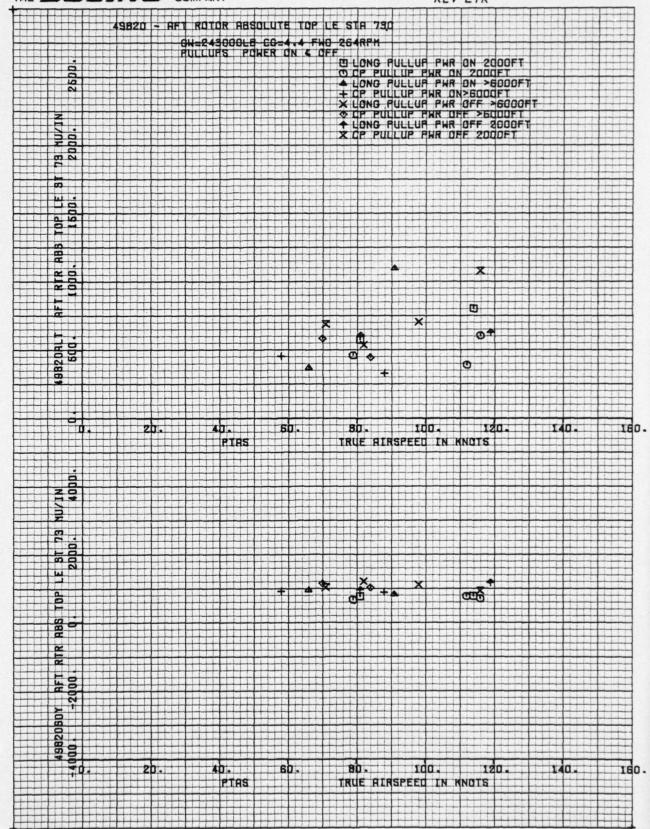
FORM 52300 (10/71)

NUMBER VOLUME 5

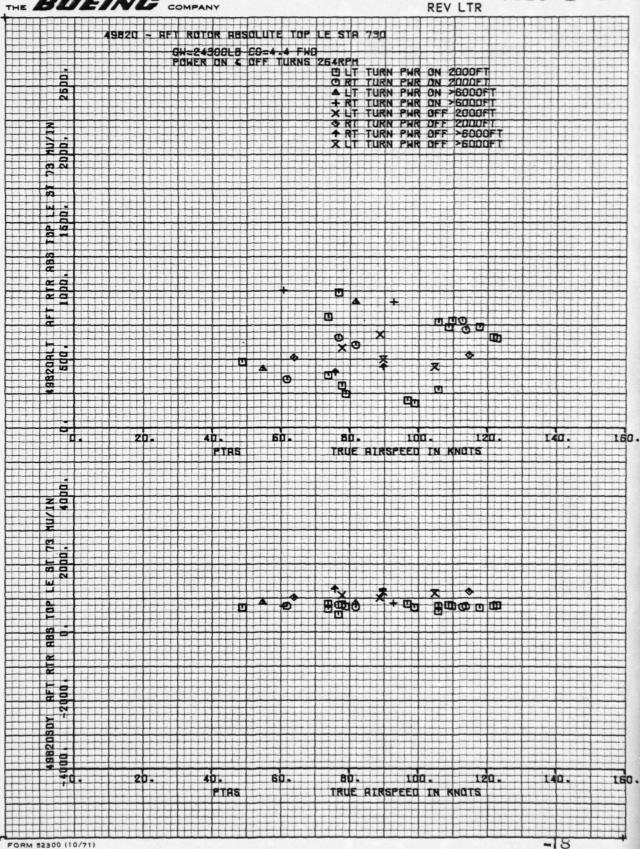
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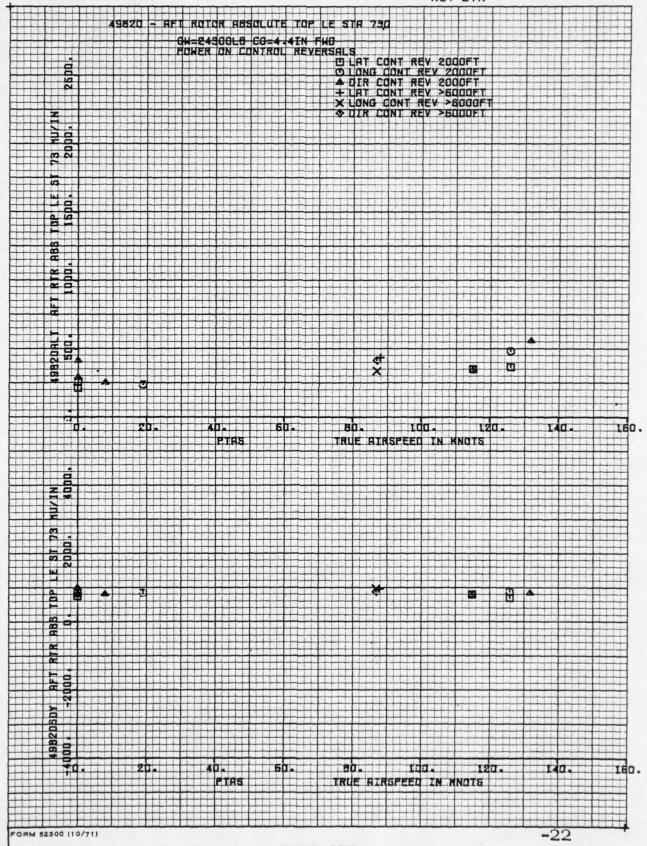
THE BOEING COMPANY

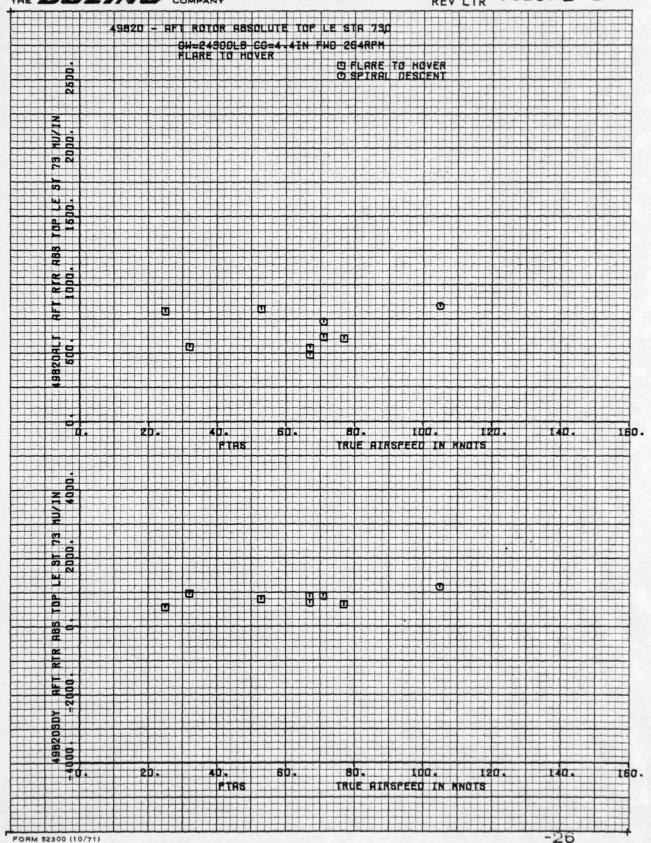
FORM 52300 (10/71)



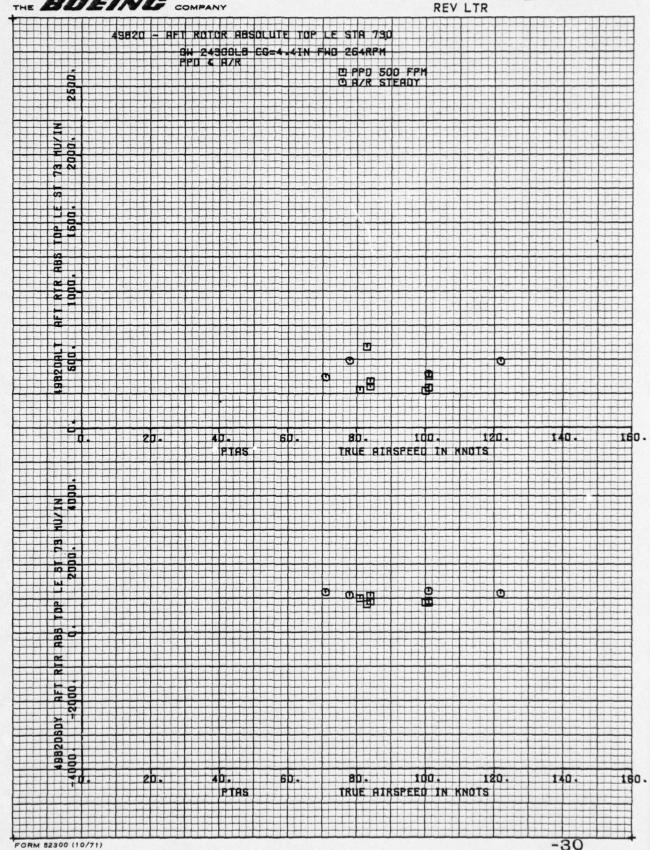
BUEING COMPANY





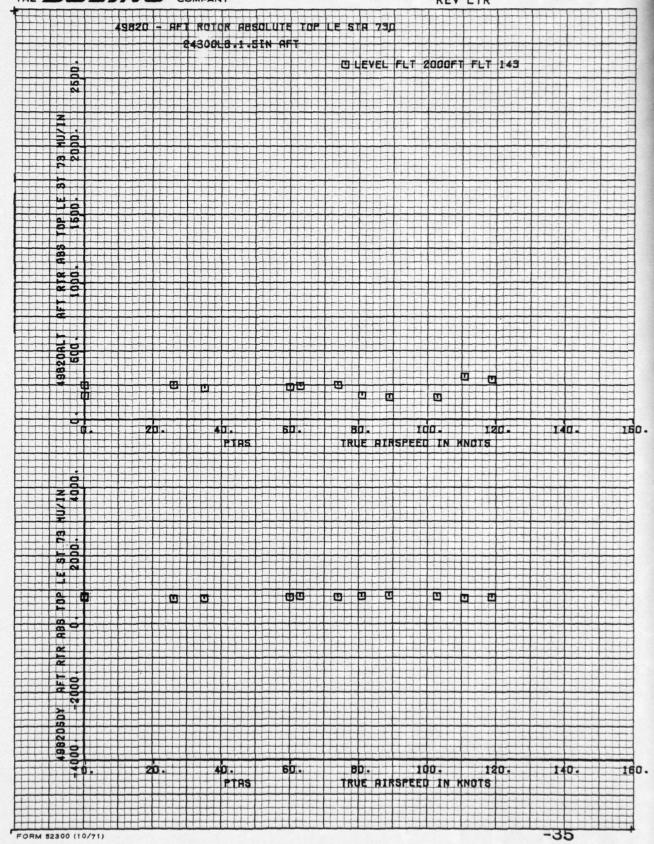


D210-11168-3 NUMBER VOLUME 5



NUMBER REV LTR VOLUME 5

NU



PREPARED BY: J. Bendo CHECKED BY: 8/28/78

NUMBER D210-11168-3 REVLTR Volume 5 MODEL NO.

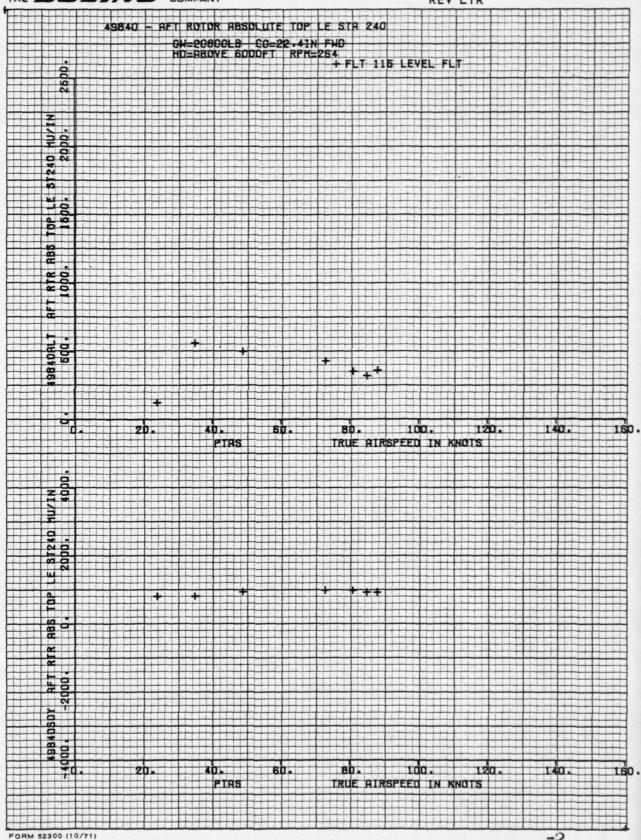
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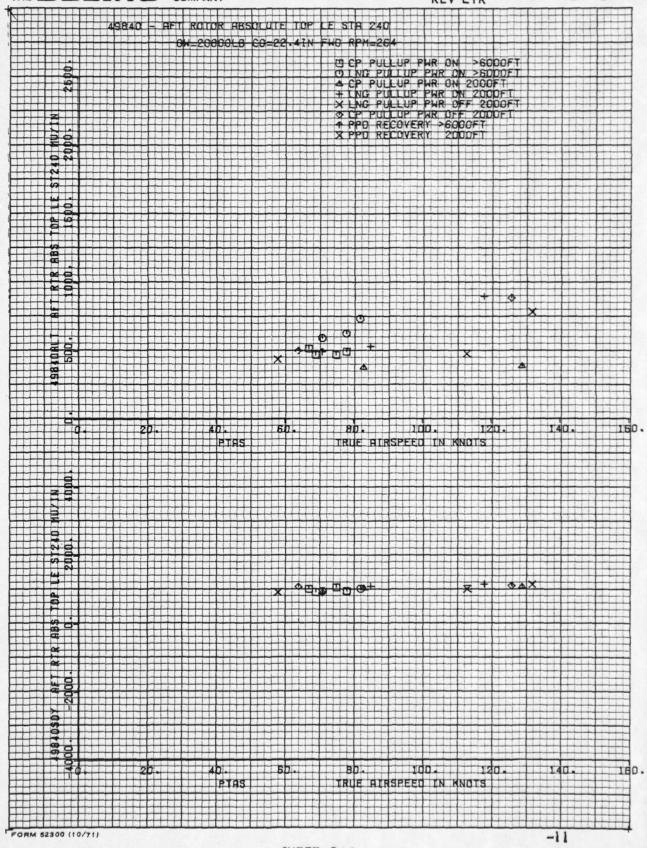
4.8 Aft Blade Absolute Top L.E. Station 240.

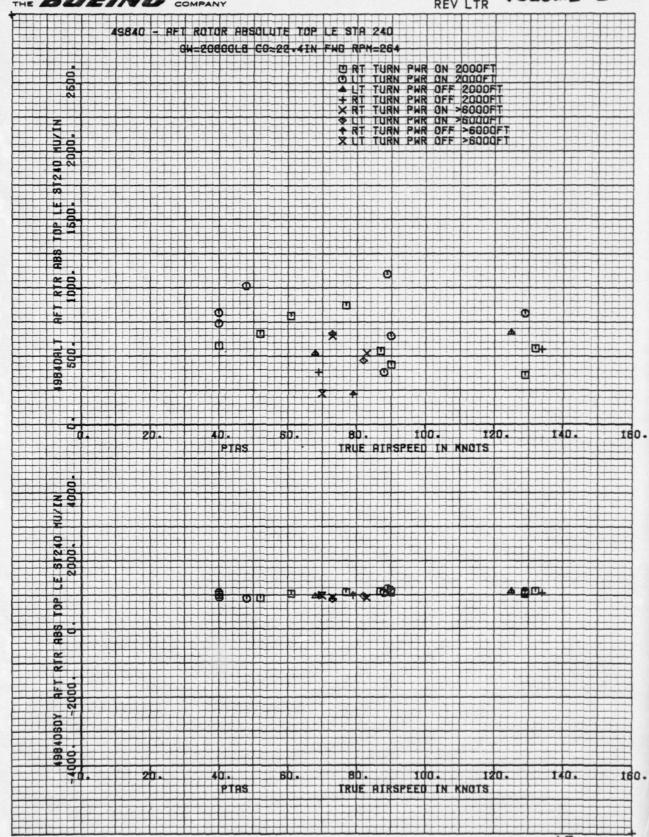
D210-11168-3 NUMBER VOLUME 5

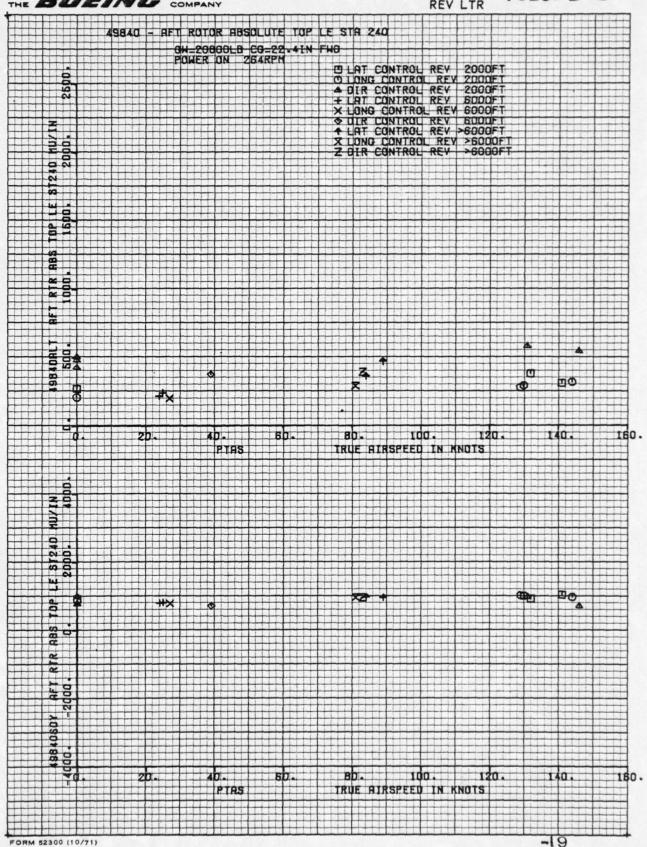
THE BOEING COMPANY REV LTR 49840 - AFT ROTOR ROSCLUTE TOP LE STA 240 GH=20800L# CQ=22.41N FH0 HQ=2000FT RPH=264 Ø FU # FLT 114 LYL FLT + FLT 115 LYL FLT C FLT 161 LYL FLT # FLT 182 LYL FLT 0. 20. 40. 60. 80. 100. 120. 140.
PTRS TRUE RINSPEED IN MNOTS 160 . 90 6 90 80 PTIAS 80. 100. 120. 160 . TRUE AIRSPEED IN KNOTS FORM 52300 (10/71)

D210-11168-3 NUMBER VOLUME 5 REV LTR

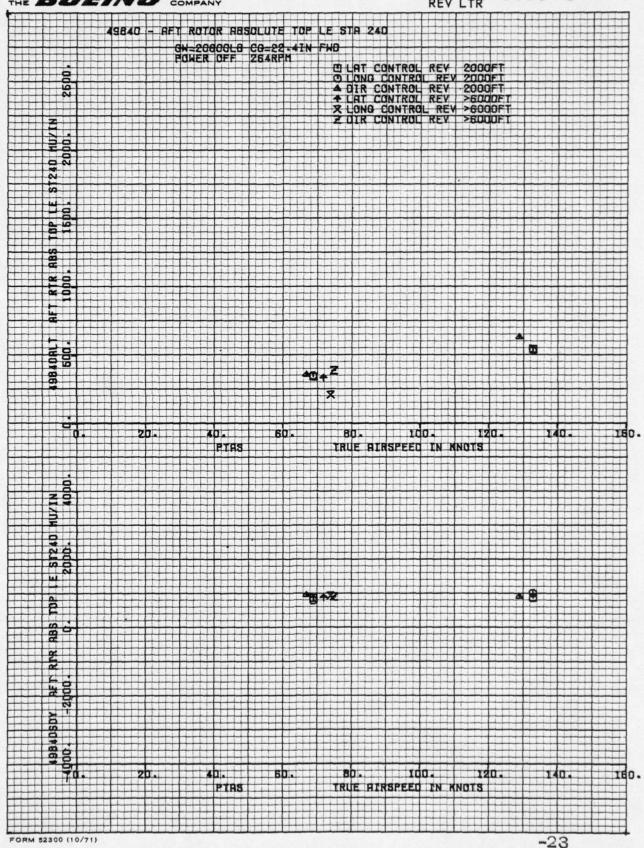






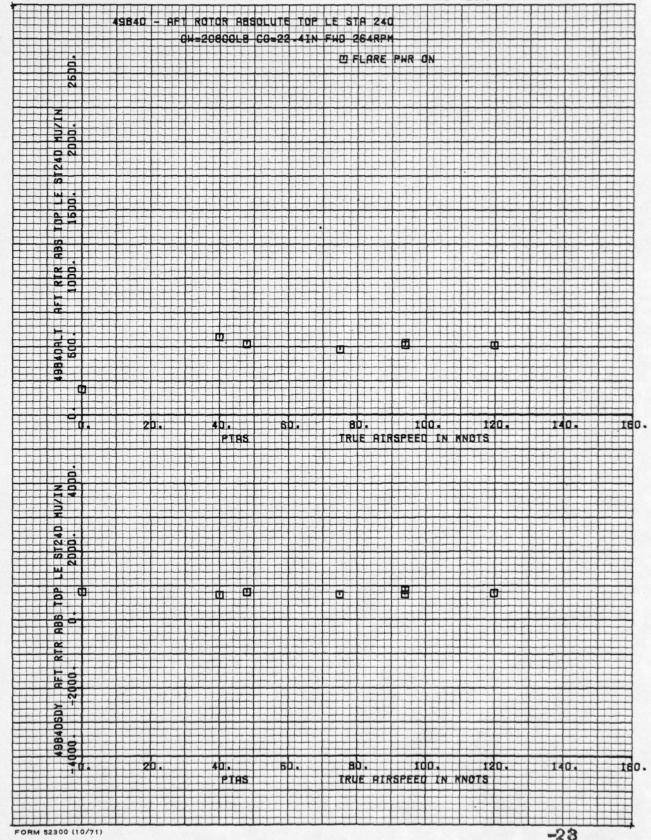


NUMBER REV LTR VOLUME 5

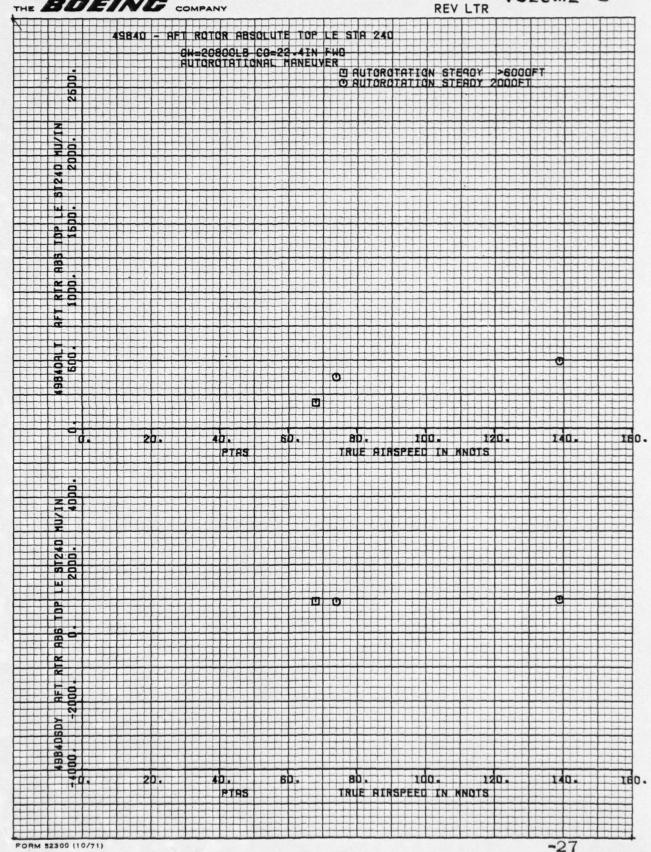


THE BOEING COMPANY

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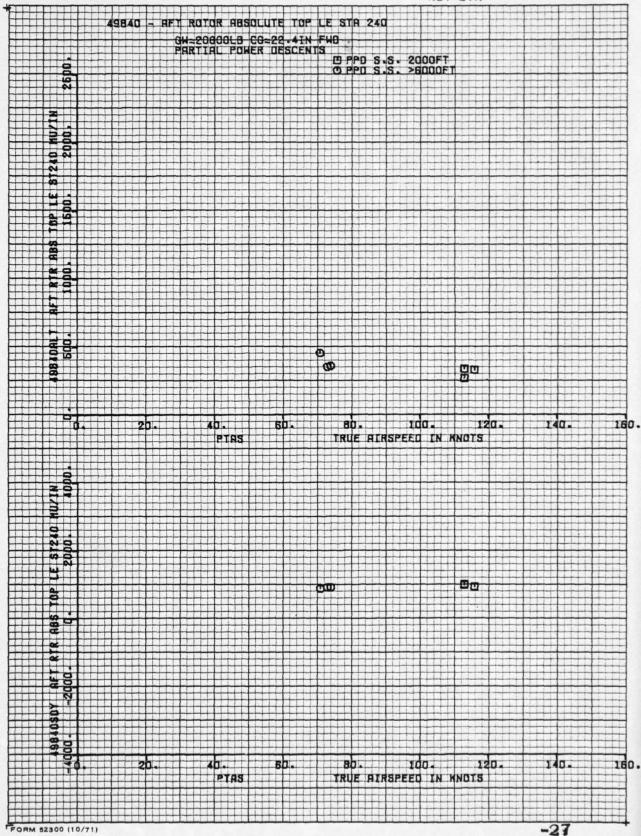


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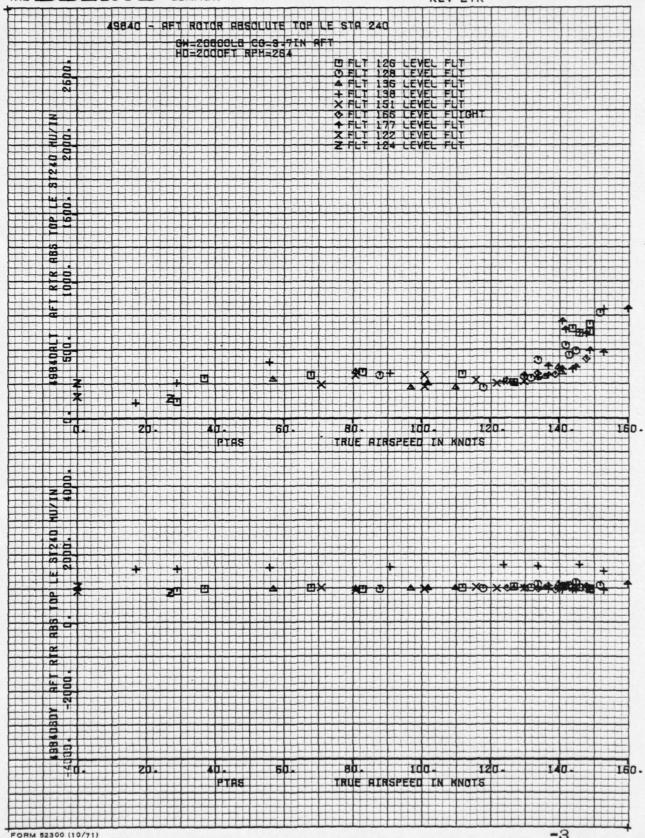
THE BOEING COMPANY

NUMBER REV LTR VOLUME 5



THE BOEING COMPANY

NUMBER REV LTR VOLUME 5



NUMBER

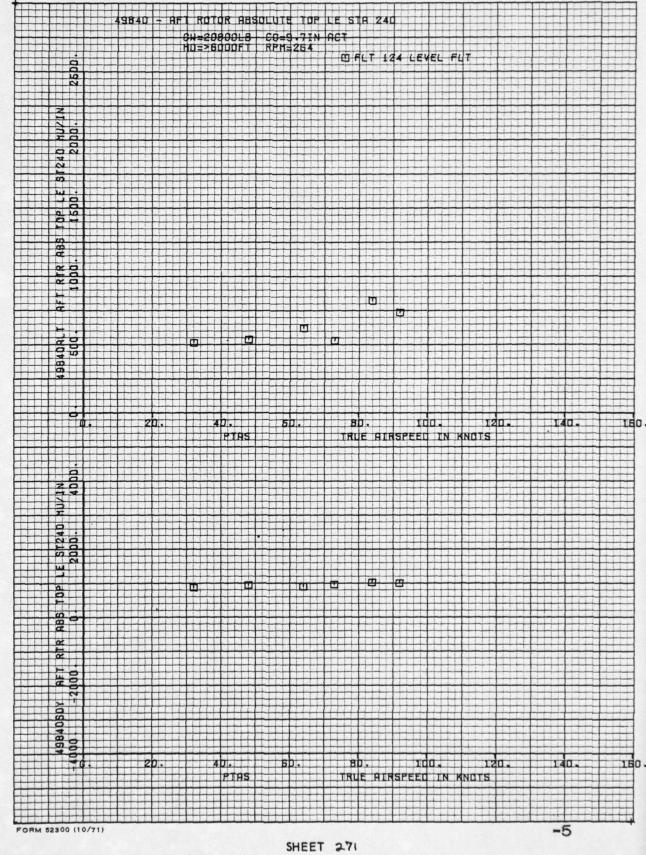
D210-11168-3 VOLUME 5

THE BOEING COMPANY

REV LTR 9840 - AFT ROTOR RESOLUTE TOP LE STA 240 GM=20800LB CG=G.71N AFT HD=6DDDFT RPM=264 O FLT 124 LEVEL FLT # FLT 137 LEVEL FLT X FLT 151 LEVEL FLT S FLT 177 LEVEL FUT reko Muzin Zaba. 10 RET RIR A 8b. 1do. 120. TRUE HIRSPEED IN KNOTS 20. 40. 50. 80. 100. 120. PTAS TRUE RIRSPEED IN MNOTS FORM \$2300 (10/71)

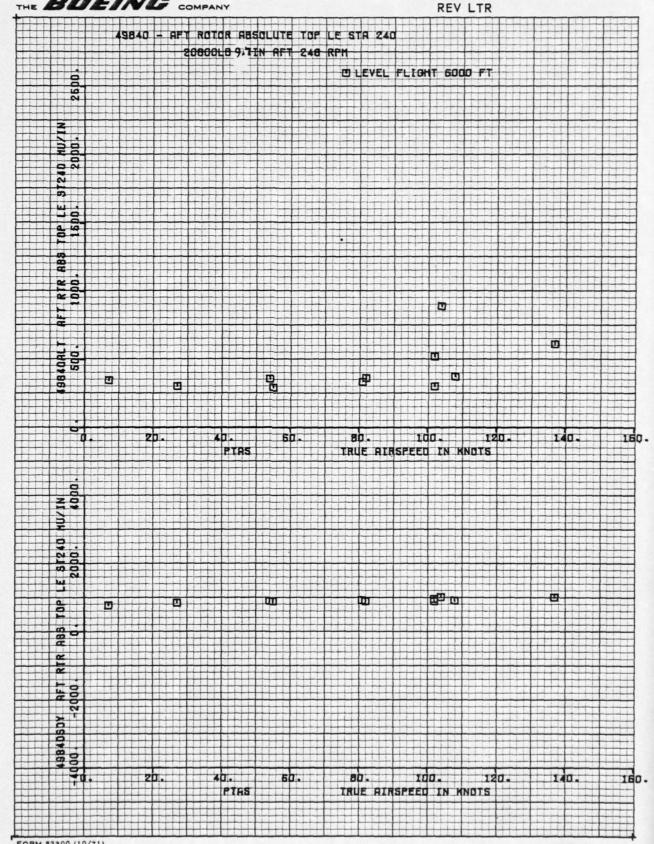
THE BOEING COMPANY

D210-11168-3 NUMBER VOLUME 5 REV LTR

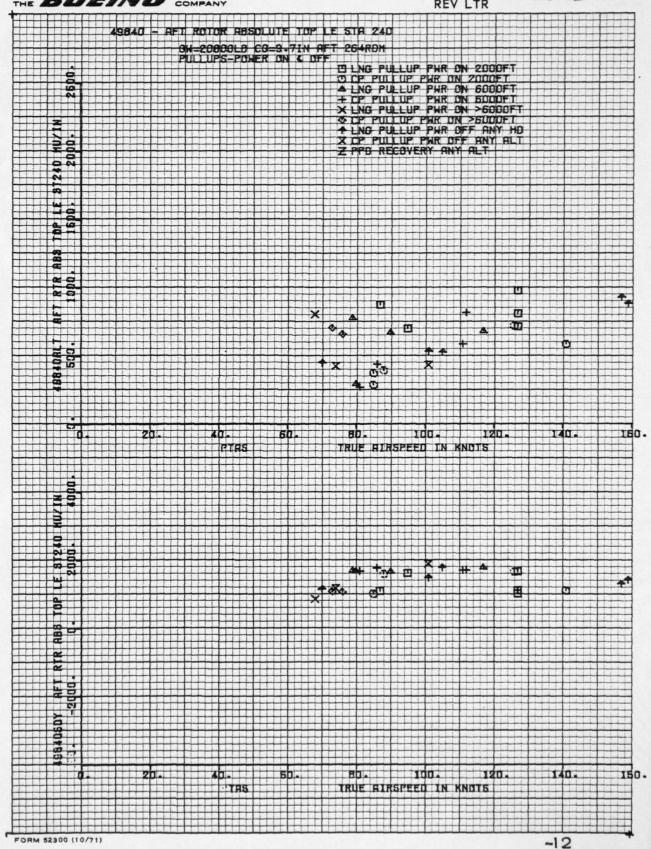


D210-11168-3 VOLUME 5

NUMBER

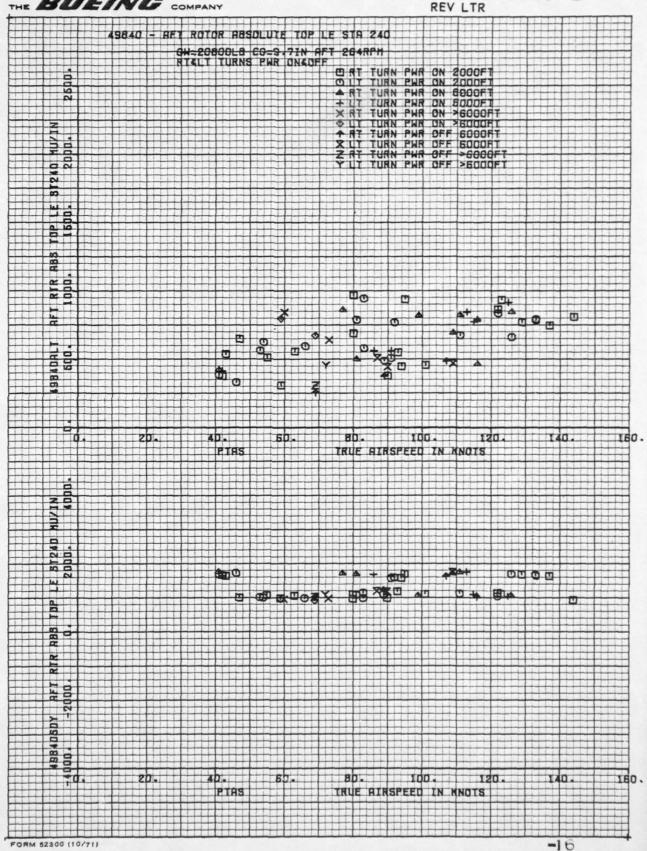


NUMBER REV LTR VOLUME 5



D210-11168-3 VOLUME 5

NUMBER



THE BUEING COMPANY

AFT ROTOR RESOLUTE TOP LE STA 240 GH=20850L8 CO≈9.7IN AFT 264RPM CONTROL REVERSALS POWER ON B LAT CONTROL REV 2000FT A DIR CONTROL REY 2000FT

+ LRT CONTROL REY 6000FT

X LNG CONTROL REY 6000FT

O DIR CONTROL REY 6000FT

+ LRT CONTROL REY 6000FT

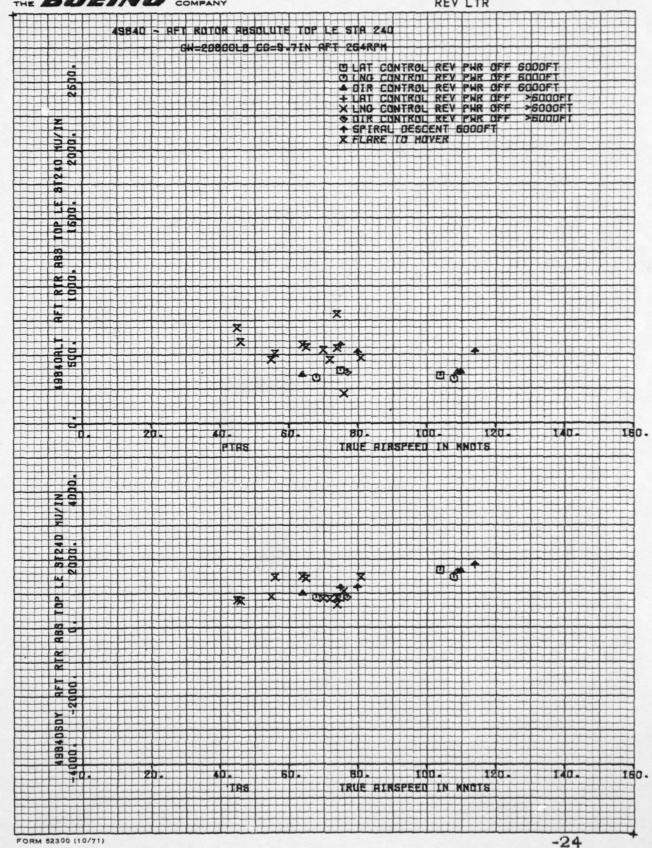
CONTROL REY 8000FT

X LNG CONTROL REY 8000FT

Z UNG CONTROL REY 8000FT

Z GIR CONTROL REY 8000FT 240 60 26 20 20. AD. 60. BD. 100. 120. PTRS TRUE SIRSPEED IN ANDIS HBS O BD. BD. 10D. 12
TRUE ALRSPEED IN MOOTS 180 PTAS -20 FORM 52300 (10/71)

D210-111F8-3 NUMBER VOLUME 5

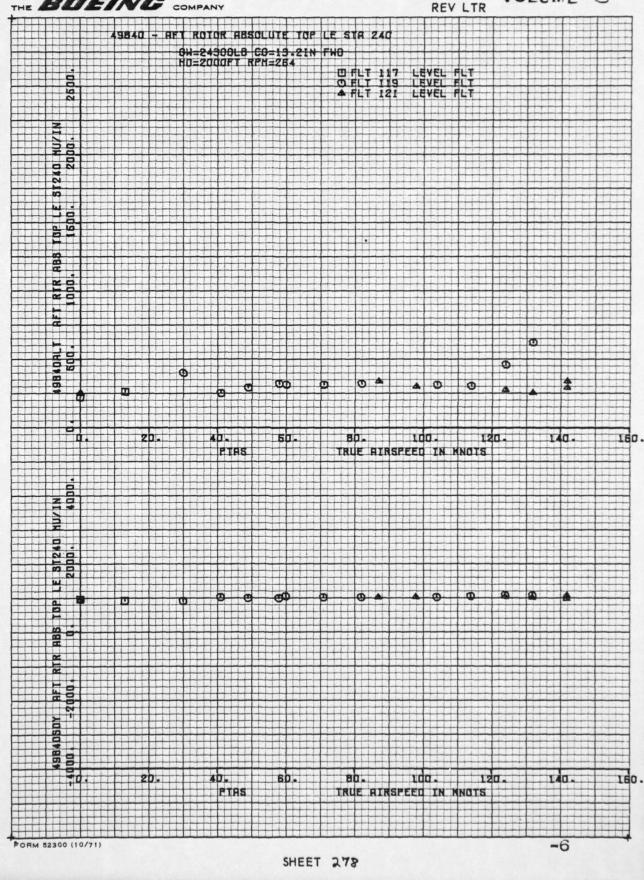


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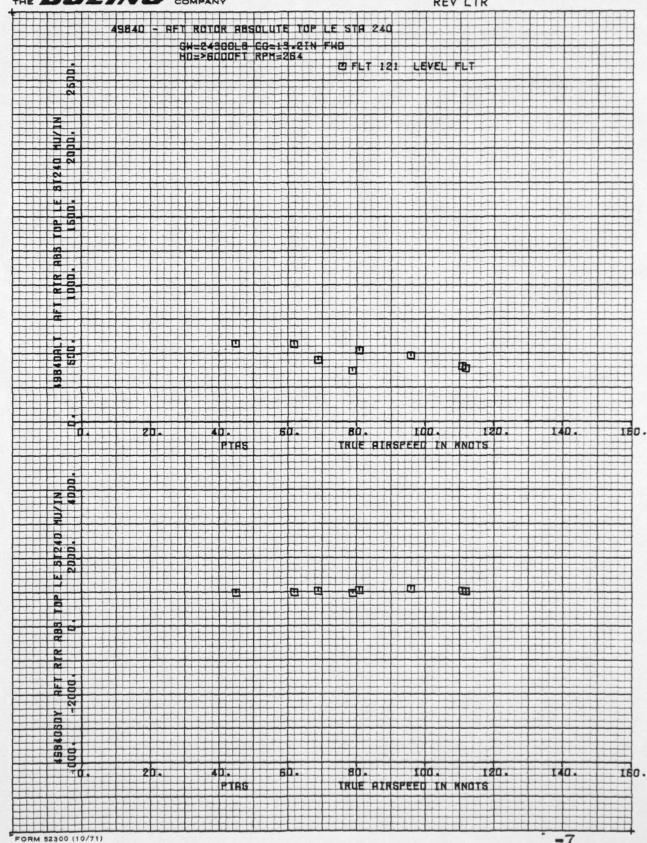
THE BOEING COMPANY

19840 - AFT ROTOR ABSOLUTE TOP LE STA 240 GH-20800L8 CG-8-7IN AFT 254RPM D A/R STEADY 5000FT O A/R STEADY >5000FT A FPD SQUOFT + PPD >6000FT STZKO MUZIN ZODO. m 88 04 0 R 2b. 4b. 5b. 8b. 100- 120-160 -PTAS TRUE AIRSPEED IN MNOTS LE 3724D ep. 130. 120. 140. 160. 40. I THE TRUE AIRSPEED IN KNOTS FORM 52300 (10/71) -28

D210-111F8-3 NUMBER VOLUME 5

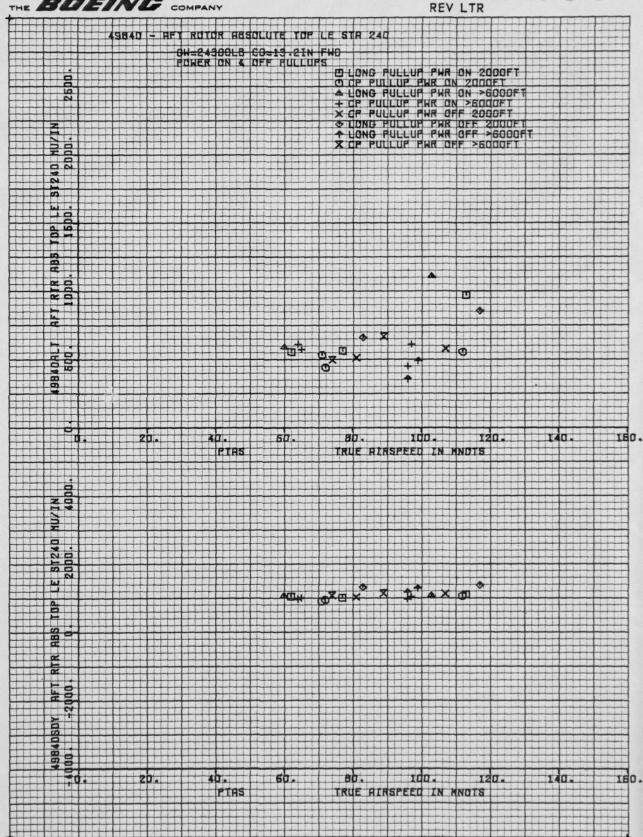


NUMBER REV LTR VOLUME 5

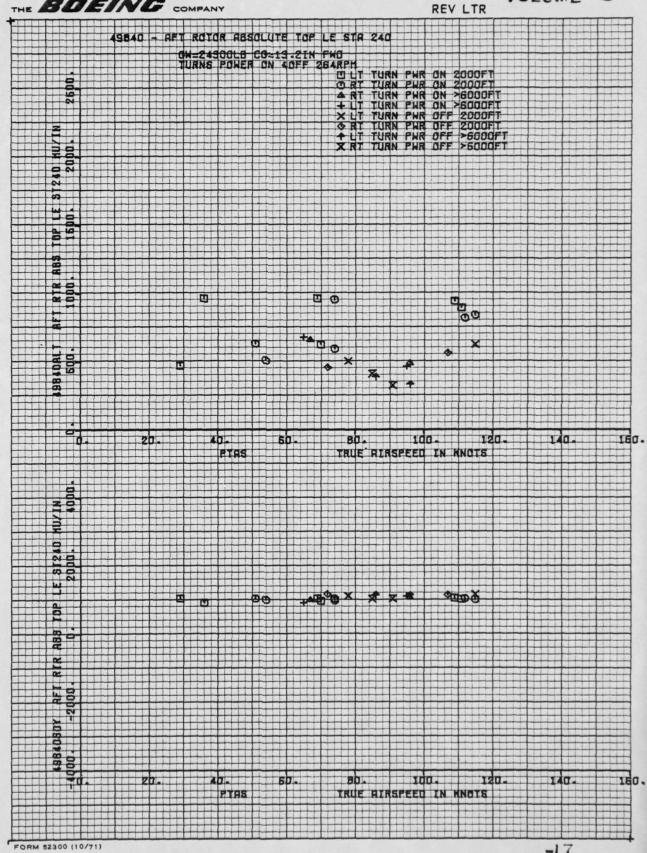


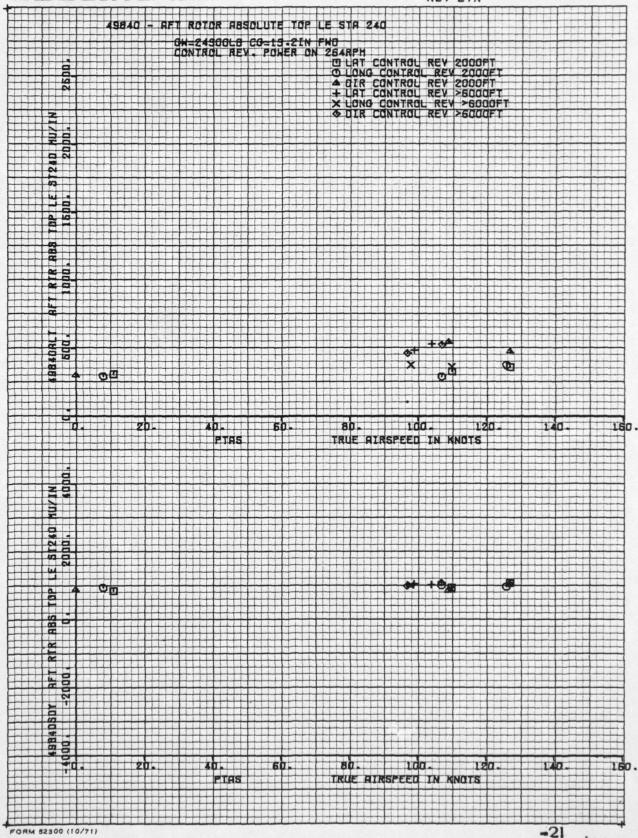
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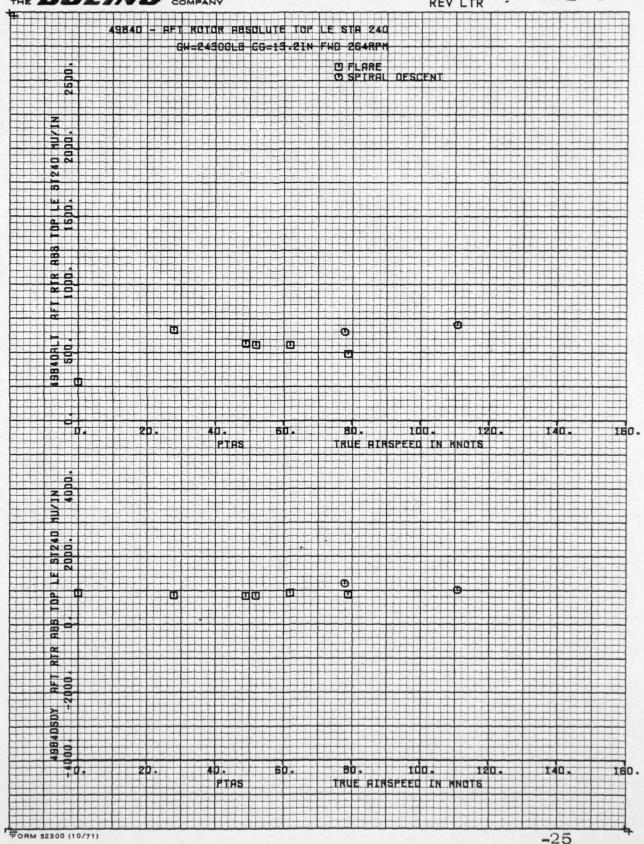
FORM 52300 (10/71)



-17

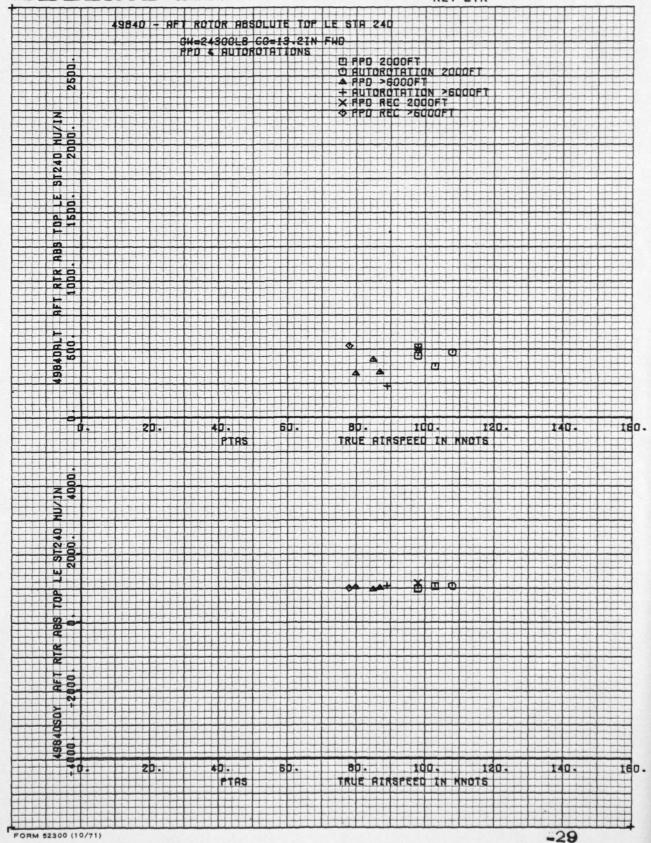




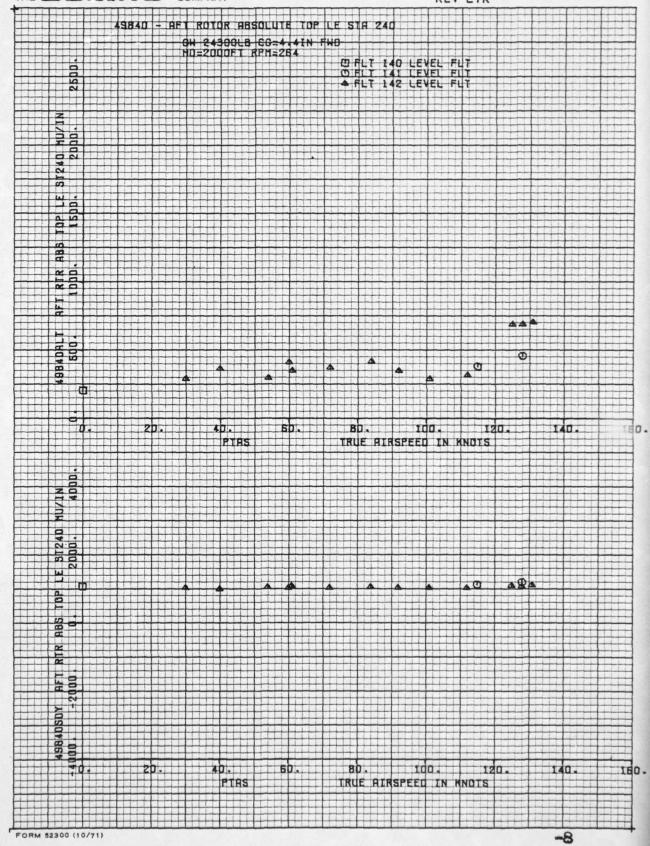


D210-11168-3 VOLUME 5

NUMBER REV LTR



NUMBER REV LTR VOLUME 5



NUMBER VOL

D210-11168-3

160

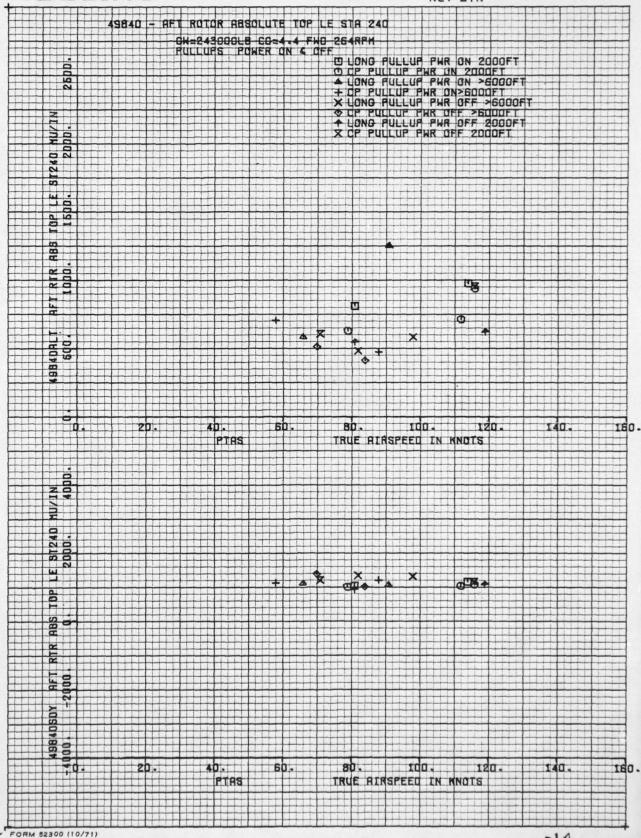
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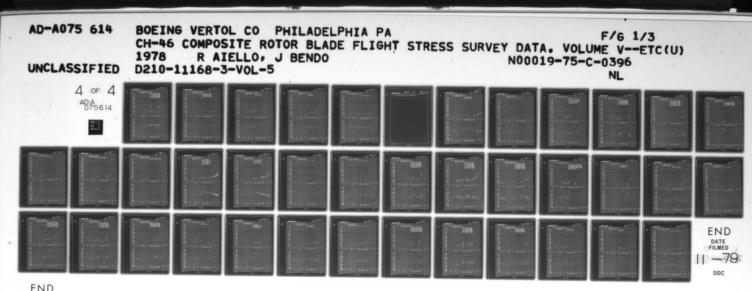
THE BOEING COMPANY 49840 - AFT ROTOR ABSOLUTE TOP LE STA 240 2500. 40 8124 46 2 8 × 0 0 U U Ш 1 zp. 4p. 6p. 8p. 100. 12a. 160. PTAS TRUE HIRSPEED IN KNOTS NIVIN K D D D 0 ~

FORM 52300 (10/71)

AO. 50. 80. 100. 120. PTRS TRUE AIRSPEED IN KNOTS

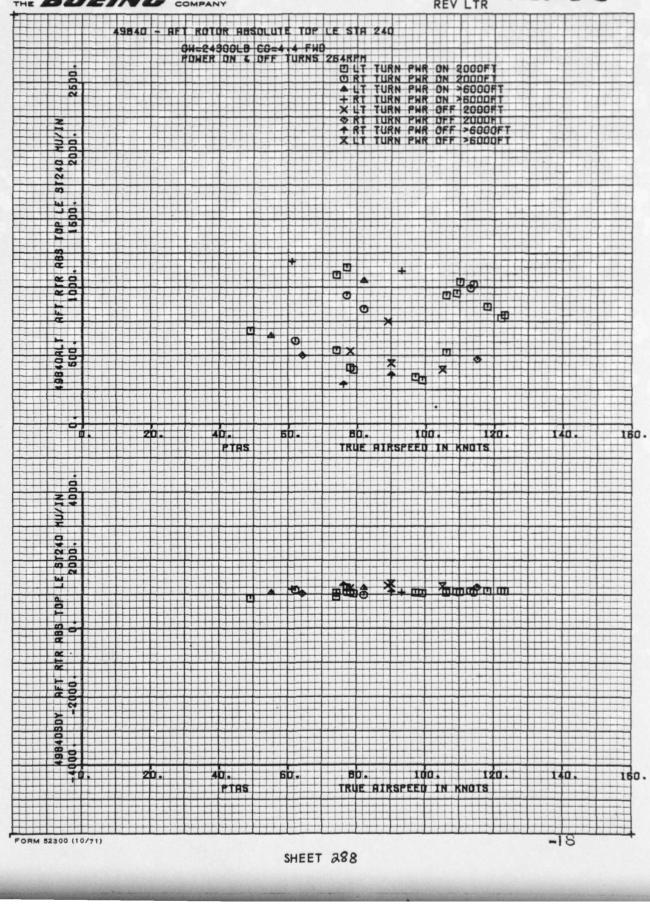
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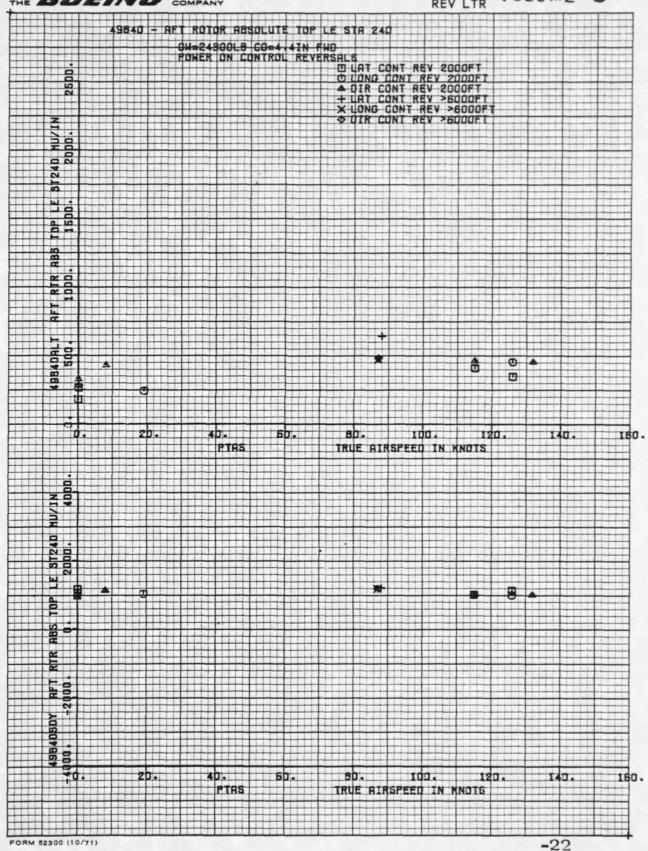


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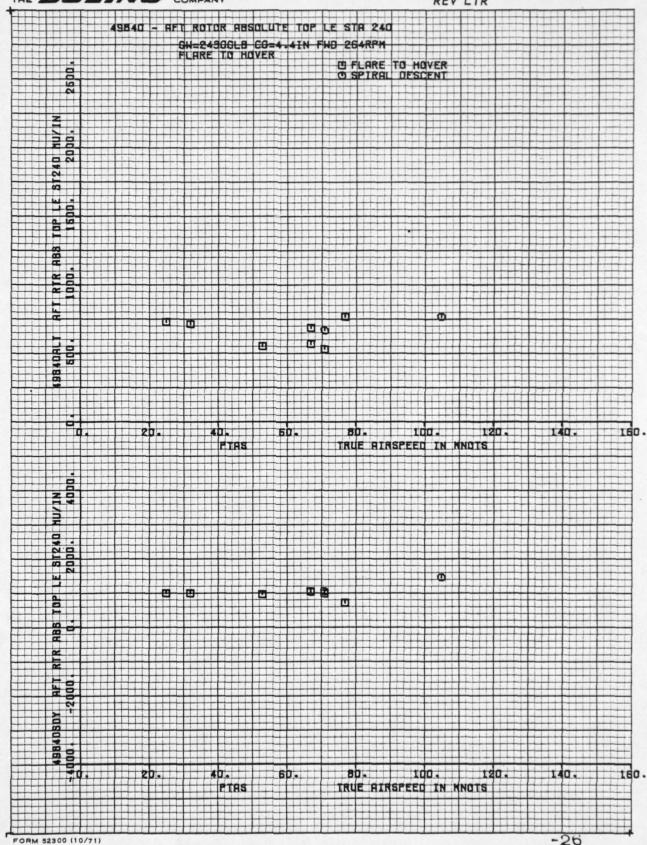
D210-11168-3 NUMBER VOLUME 5 REV LTR

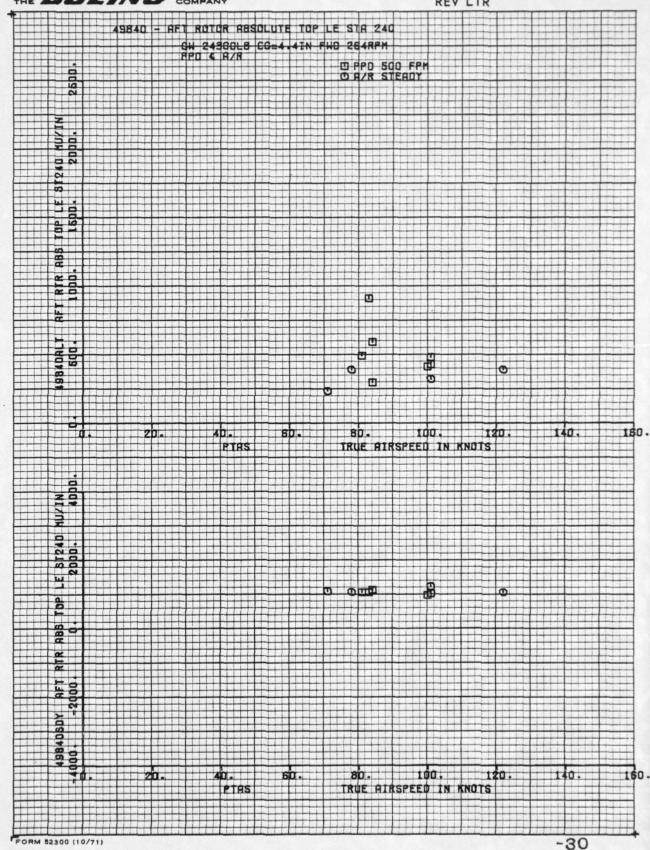


NUMBER REV LTR VOLUME 5

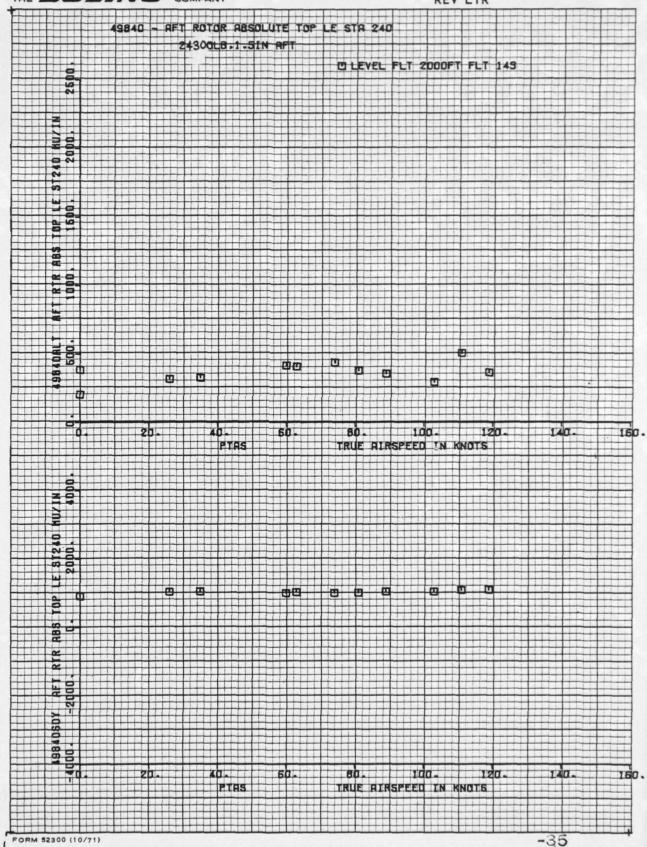


NUMBER VOLUME 5





NUMBER REV LTR VOLUME 5



PREPARED BY: J. Bendo

CHECKED BY:

NUMBER D210-11168-3 REV LTR Volume 5 MODEL NO.

THE BOEING COMPANY DATE:

8/28/78

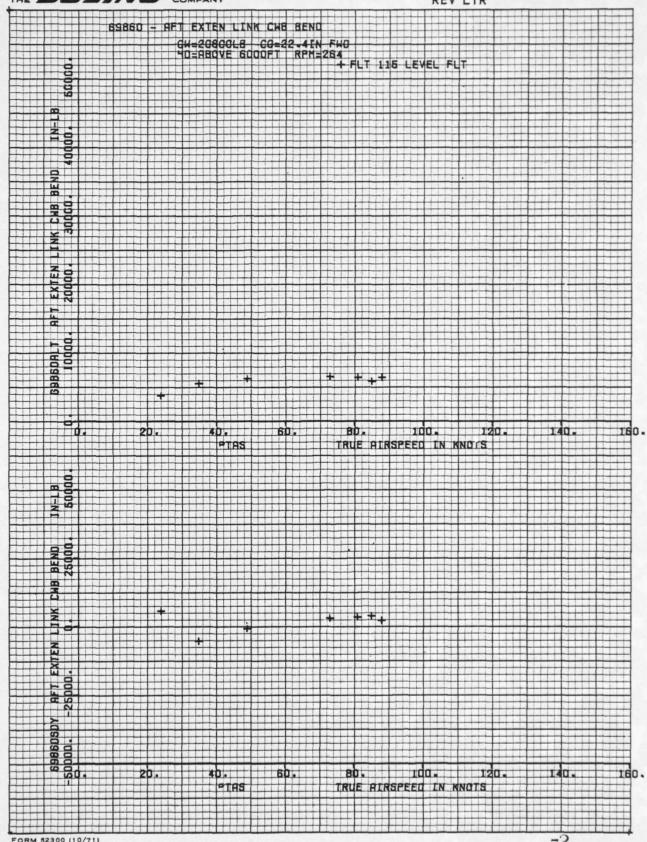
4.9 Aft Blade Extension Link Chord Bending

THE BOEING COMPANY

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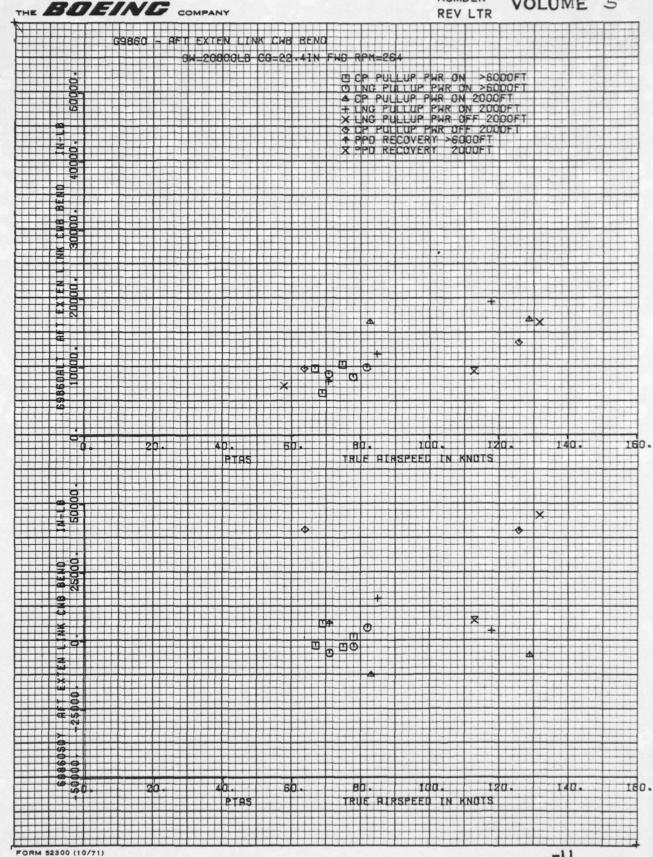
FORM 52300 (10/71)

AFT EXTEN LINK CHR BEND GN=20800LR CG=22.41N FH0 HD=2000FT RPH=254 # FLT 114 LVL FLT + FLT 115 LVL FLT @ FLT 162 LVL FLT & FLT 162 LVL FLT 6. 20. 40. 50. 80. 100. 120. 140. PTRS TRUE SIRSPEED IN NACTS EN TIME CHI BEND # 50. 20. 40. 60. 80. 100. 120. 120. 1748 TRUE RIMSPEED IN MOOTS 140. 150



NUMBER VO

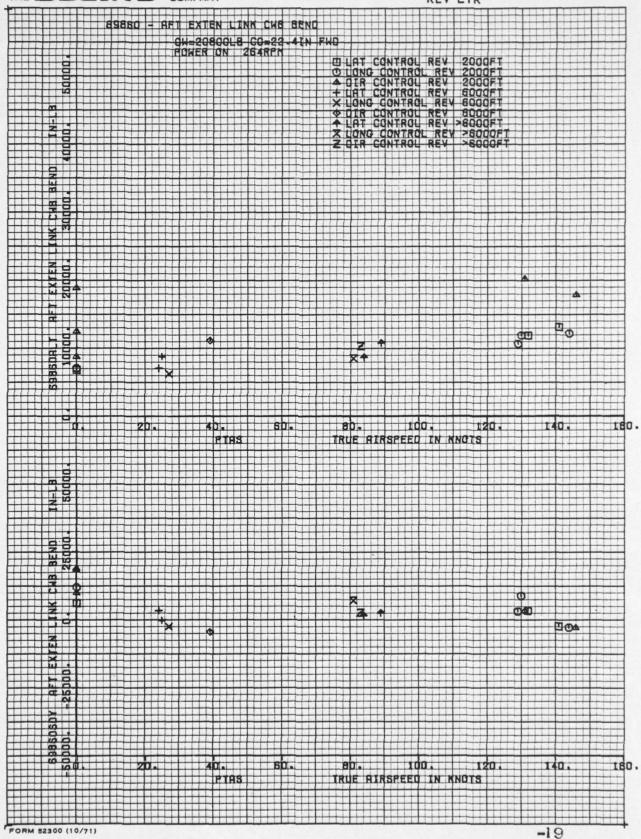
D210-11168-3 VOLUME 5



-15

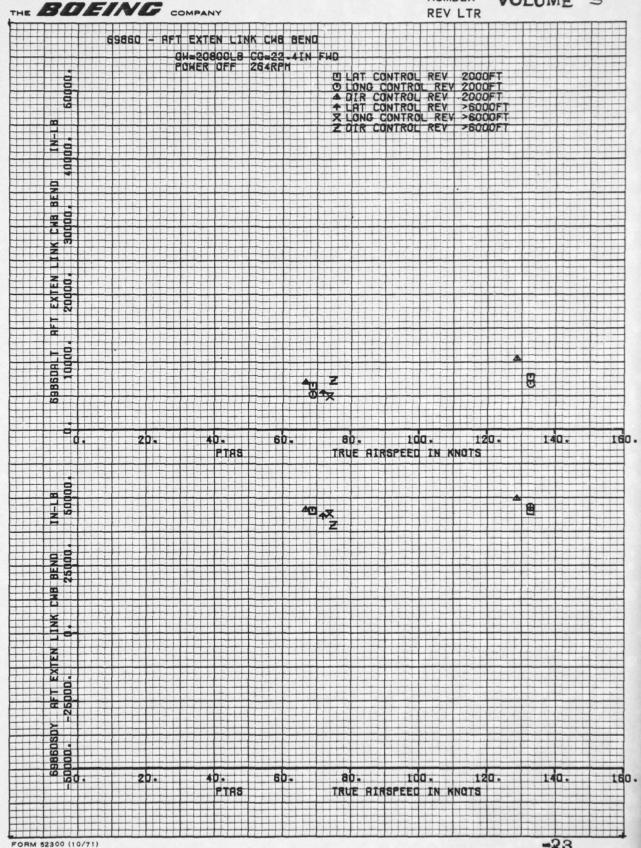
FORM 52300 (10/71)

- AFT EXTEN LINK CHE BEND 69860 GH=20800LB CG=22.4IN FWD RPH=264 DRT TURN PHR ON 2000FT
OUT TURN PHR ON 2000FT
LT TURN PHR OFF 2000FT
RT TURN PHR OFF 2000FT
RT TURN PHR ON >6000FT
RT TURN PHR ON >6000FT
LT TURN PHR ON >6000FT
RT TURN PHR OFF >6000FT
RT TURN PHR OFF >6000FT B T 80 AU + 50. 30. 1da. 12a. 160. TRUE BIRSPEED IN KNOTS BEND 25000. 40. 60. 100-160. PTAS TRUE HIRSPEED IN MNOTS



NUMBER

REV LTR



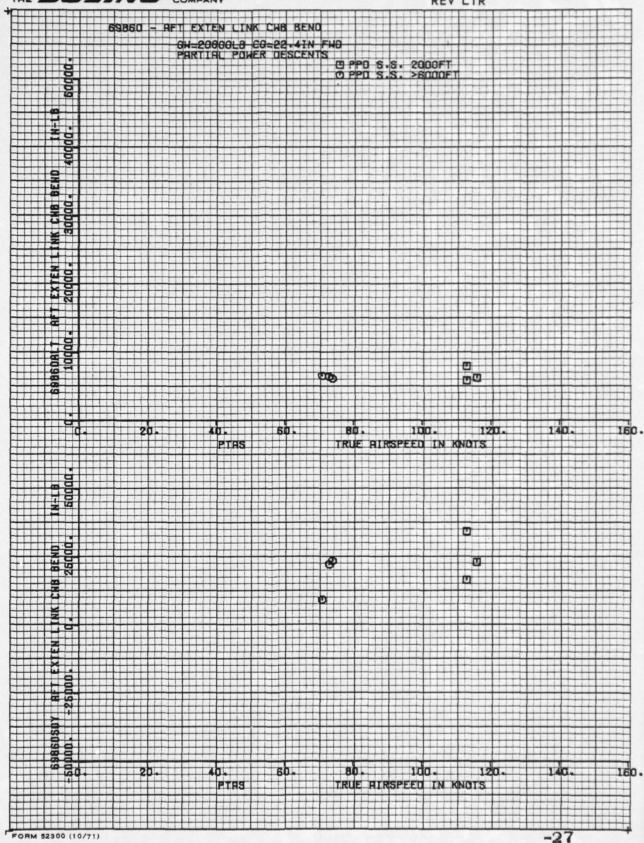
NUMBER REV LTR D210-11168-3

THE BOEING COMPANY

FORM 52300 (10/71)

69860 - AFT EXTEN LINK CWB BEND QH=20000LB CO=22-4IN FWD 264RPM O FLARE PHR ON 0. 20. 40. 60. 80. 100. 120. PTHS TRUE AIRSPEED IN MNOTS 160. To the second se 20. 40. 50. 80. 100. 120. PTAS TRUE AIRSPEED IN KNOTS 150.

NUMBER REV LTR VOLUME 5



NUMBER VOLUME 5

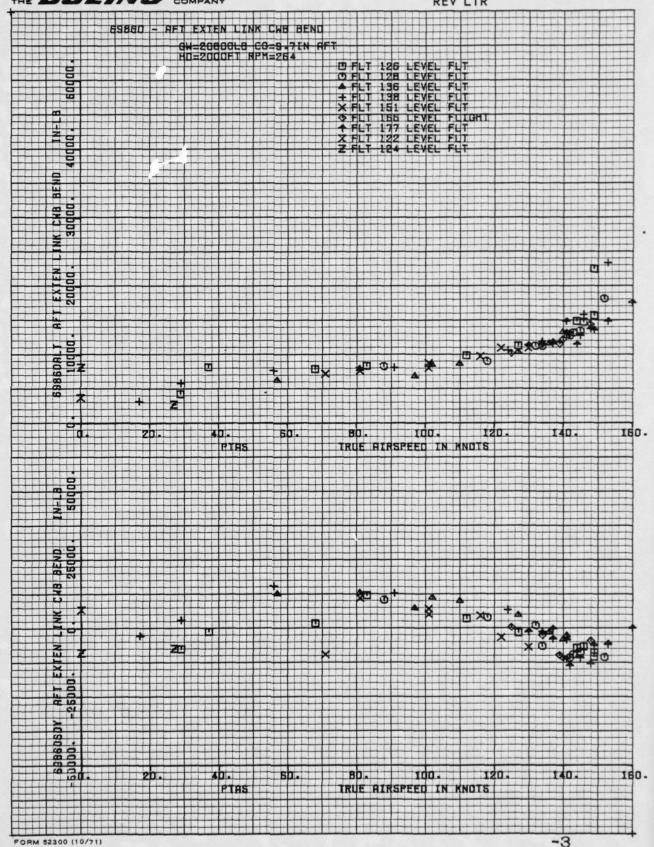
THE BUEING COMPANY

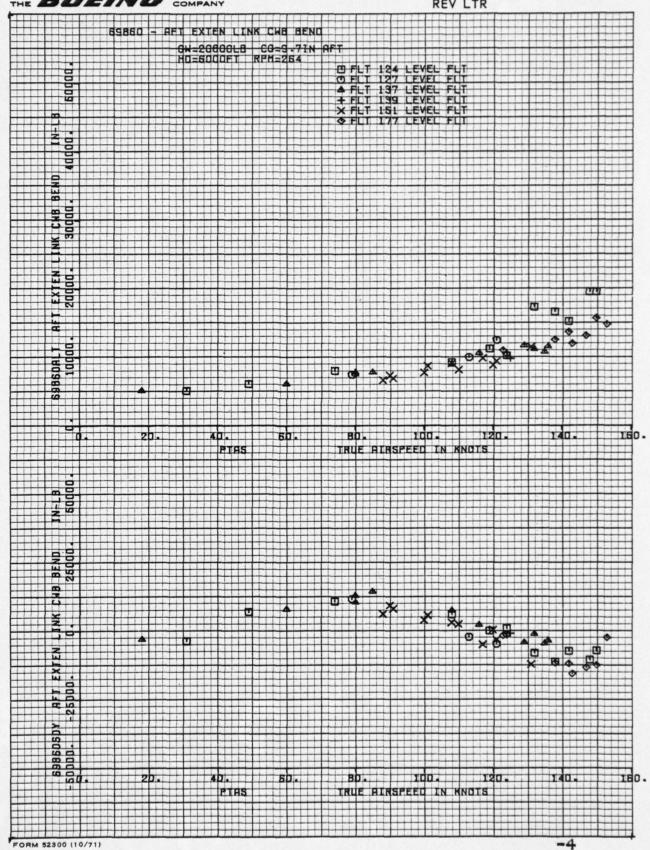
T EXTEN LINK LAG

GW=20800L8 CG=22.4IN FWO

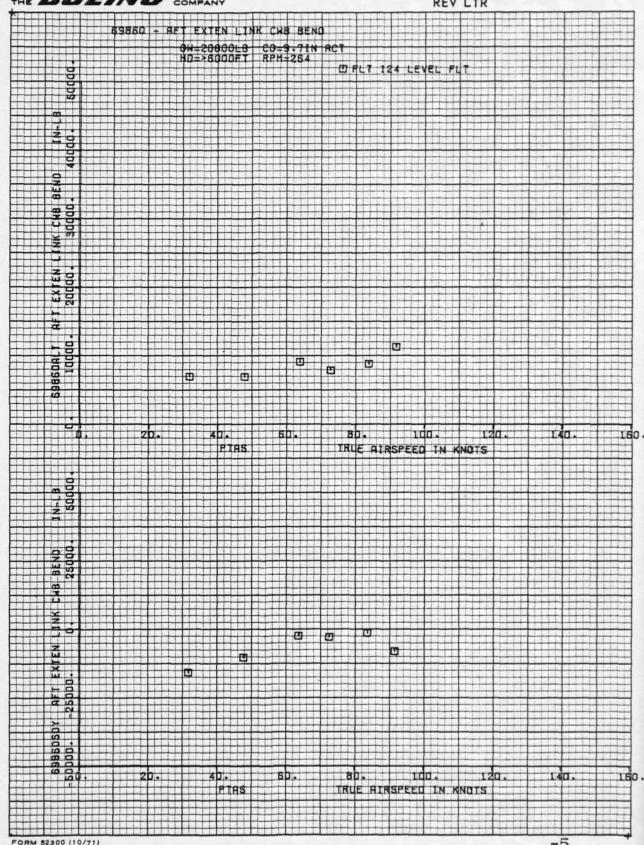
GW=20800L8 CG=22.4IN FWO 69860 - AFT EXTEN LINK CWE BEND 60000 LINK CHB 30000 EXTEN 2 B 0 140. BD. 100. 120. 160. TRUE AIRSPEED IN MNOTS BEND 25000 40. 100. 140. 160. PTAS TRUE AIRSPEED IN KNOTS FORM 52300 (10/71)

D210-11168-3 NUMBER | VOLUME 5





NUMBER VOLUME 5



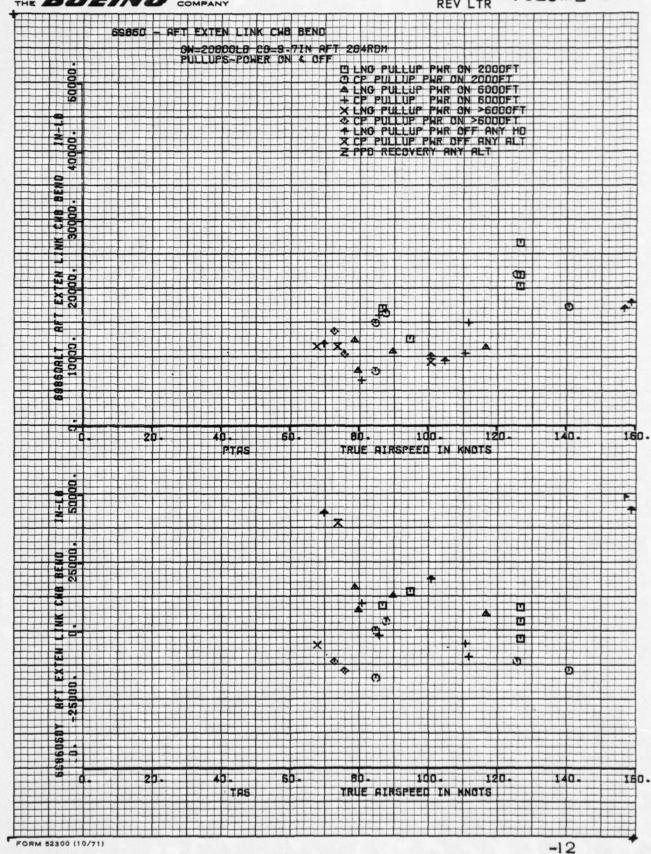
D210-11168-3 VOLUME 5

NUMBER REV LTR

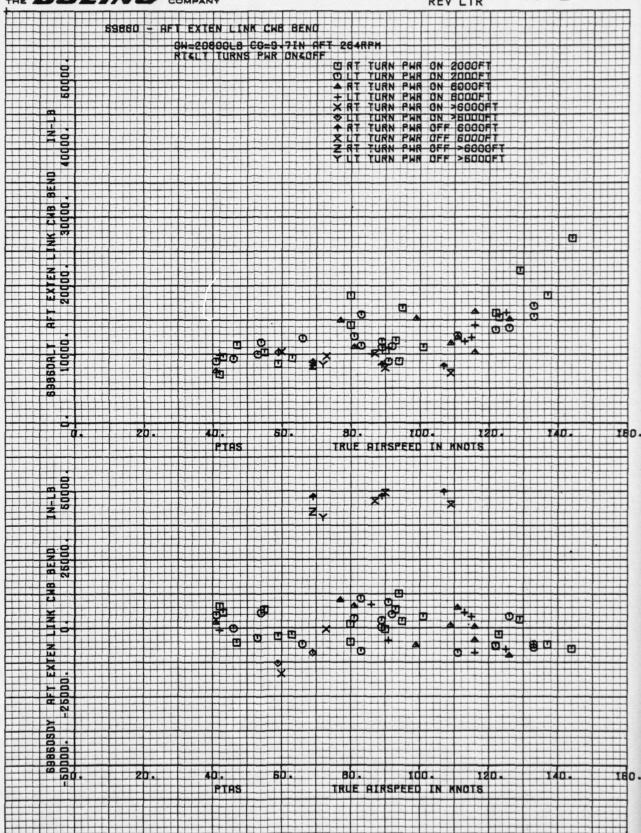
THE BOEING COMPANY 69860 - AFT EXTEN LINK CHB BEND 20000LB 9.7IN AFT 246 RPH 50000. D LEVEL FLIGHT SOOD FT INK CHB 30000. 0 m 150. PTRS TRUE BIRSPEED IN KNOTS 20. 40. 50. PTRS 80. 100. 120. TRUE BIRSPEED IN KNOTS

FORM 52300 (10/71)

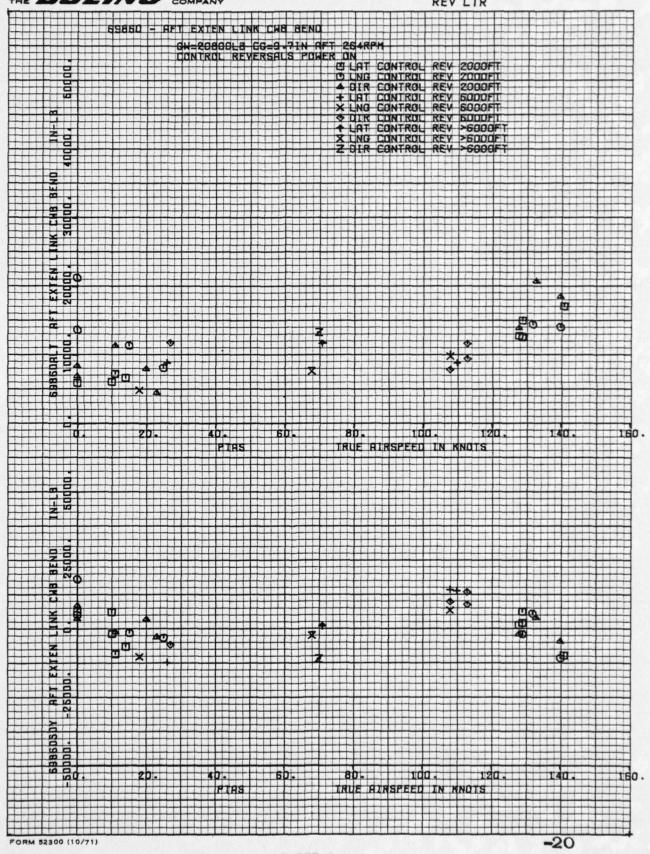
NUMBER REV LTR D210-11168-3 VOLUME 5



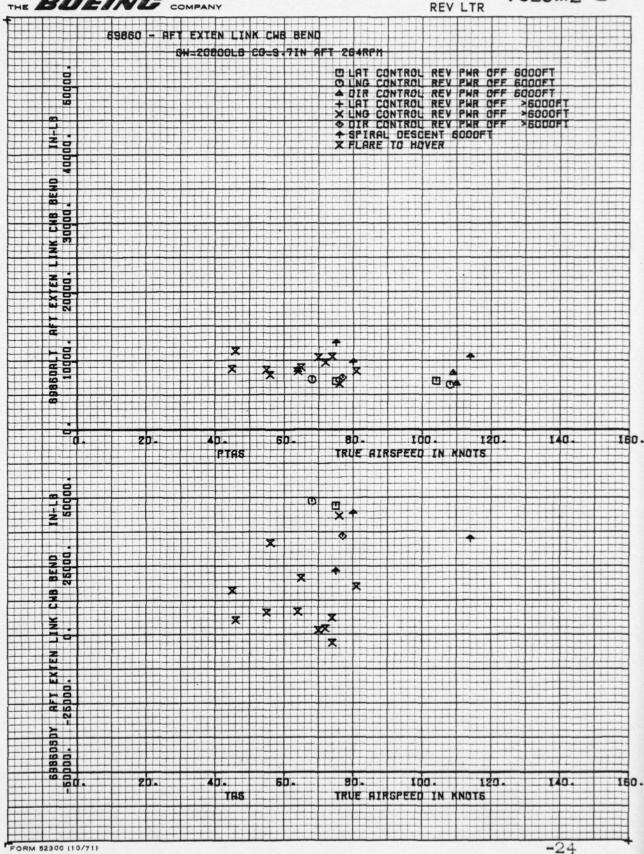
FORM 52300 (10/71)



NUMBER POLUME 5

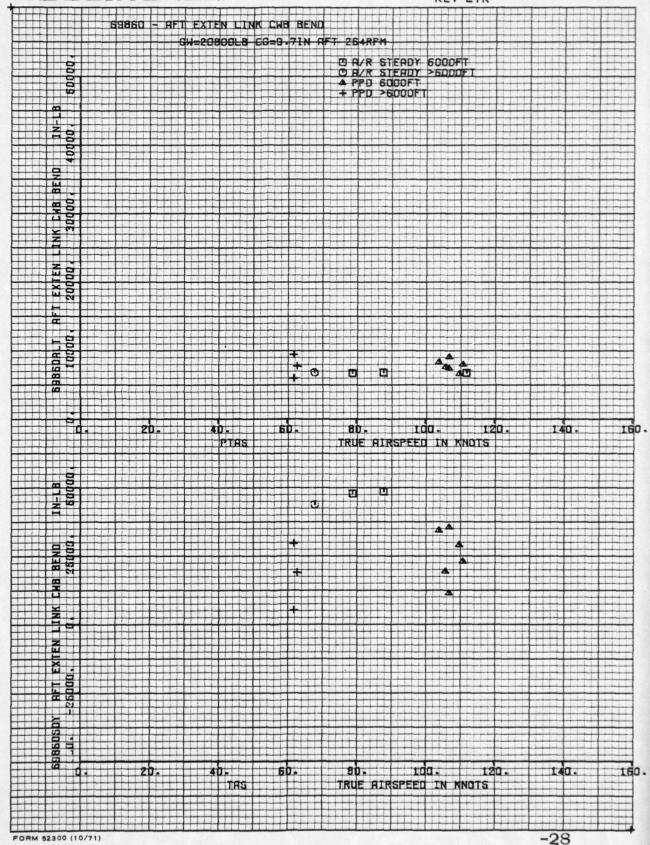


D210-11168-3 NUMBER VOLUME 5



THE BOEING COMPANY

NUMBER REV LTR VOLUME 5



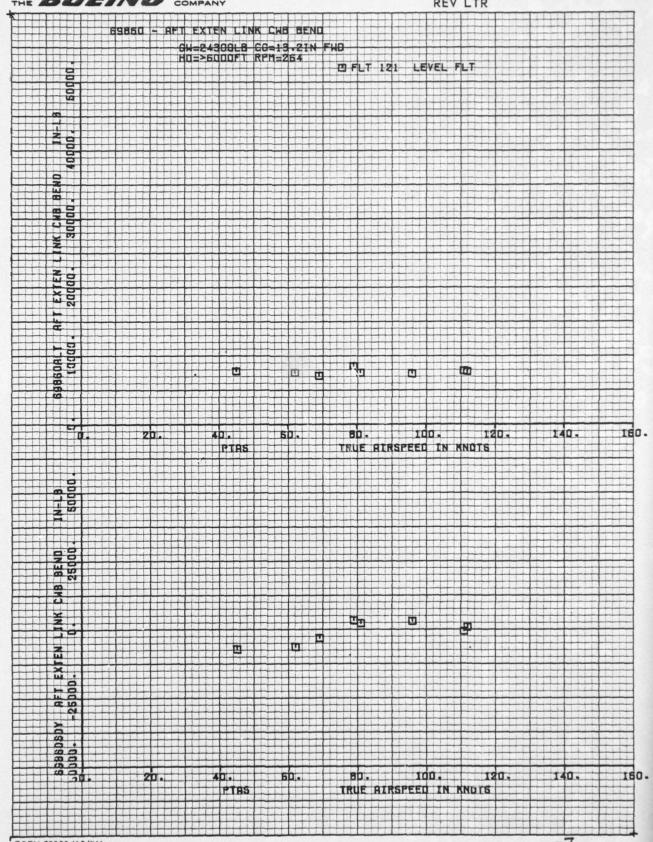
D210-11168-3

NUMBER VOLUME 5

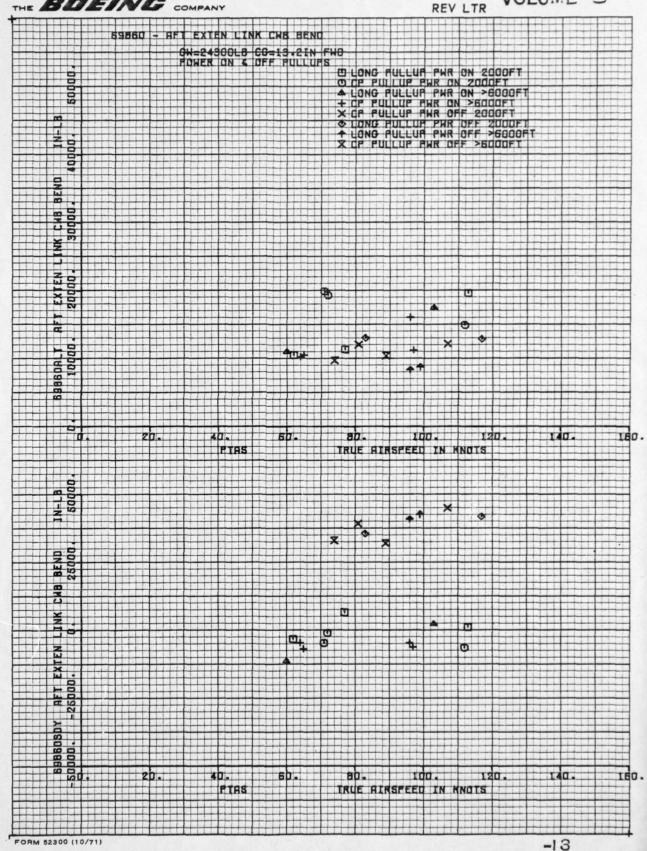
REV LTR

69860 - AFT EXTEN LINK CHE BEND OH-24900L8 CG-19.2IN FND HD-2000FT RPH-264 C FLT 117 LEVEL FLT A FLT 121 LEVEL FLT 3 EXTEN 20000. 0 50- 80- 100- 120-TRUE HIRSPEED IN MNOTS BEND 25000 0 O 0 160. PTAS TRUE RIRSPEED IN MNOTS FORM 52300 (10/71)

D210-11168-3 NUMBER VOLUME 5 REV LTR



D210-11168-3 NUMBER VOLUME 5

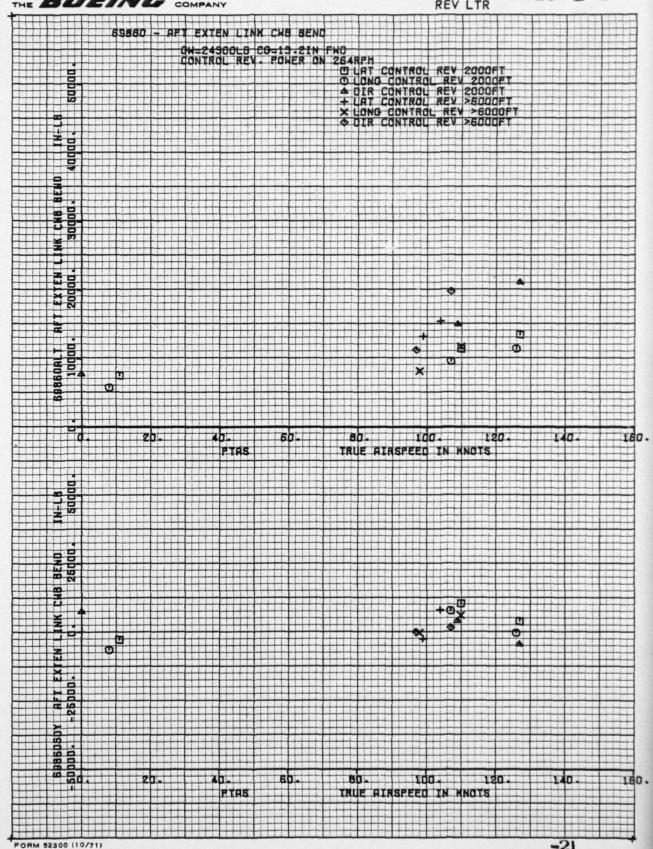


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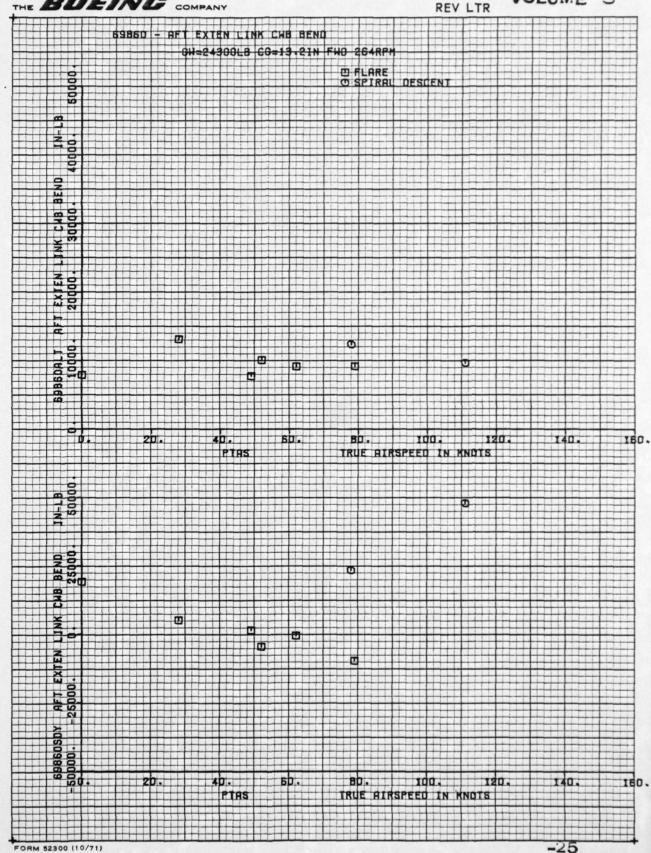
THE BOEING COMPANY

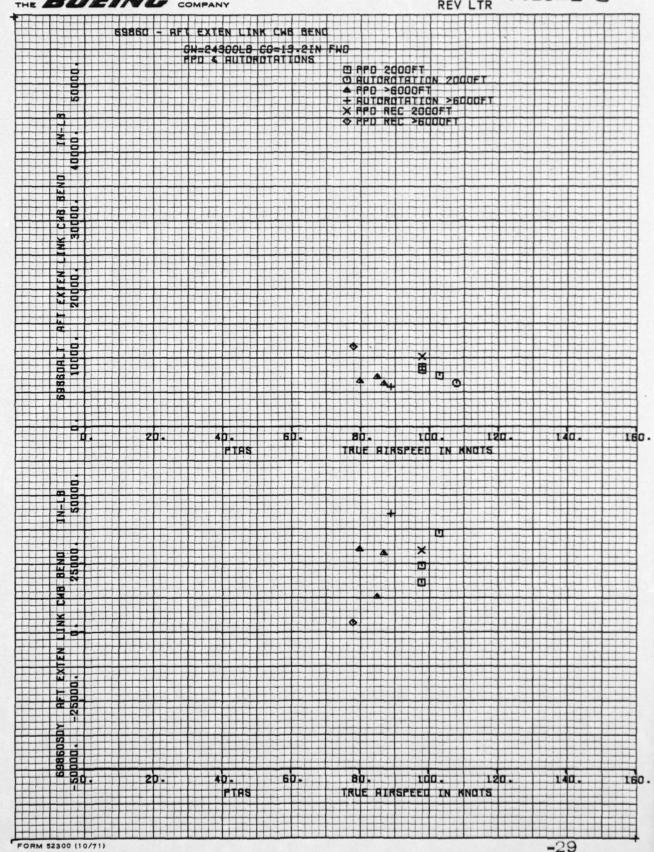
69850 - AFT EXTEN LINK CHE BEND OH-24300LB CO-13.2IN FWD TURNS POWER ON AOFF 264RPF ARPH
D LT TURN PHR ON 2000FT
ORT TURN PHR ON 2000FT
ART TURN PHR ON >6000FT
H LT TURN PHR ON >6000FT
X LT TURN PHR OFF 2000FT
ORT TURN PHR OFF >6000FT
X RT TURN PHR OFF >6000FT
X RT TURN PHR OFF >6000FT
X RT TURN PHR OFF >6000FT 2 INK CKB I 0 ZD. 40. 50. 80. 100. 120. PTAS TRUE ALASPEED IN KNOTS BEND 25000. 9 ШФ 20. 47. 50. PIRS 80. 100. 120. 180. TRUE RIRSPEED IN KNOTS FORM 52300 (10/71) -17

NUMBER REV LTR VOLUME 5



D210-11168-3 NUMBER VOLUME 5





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-8

VOLUME 5 NUMBER

THE BOEING COMPANY

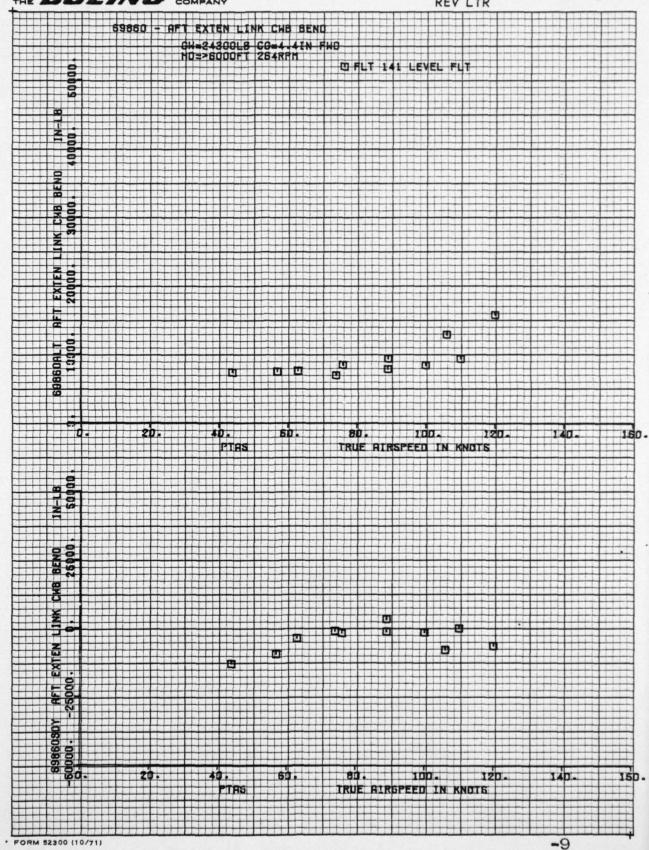
FORM 52300 (10/71)

REV LTR 5980 - RET EXTEN LINK CHE BEND GH 24300LB CO=4.4IN FWO HD=2000FT RPM=264 O FLT 140 LEVEL FLT O FLT 141 LEVEL FLT FLT 142 LEVEL FLT AFT EXTE 20. 40. 50. 80. 100. 120. IBO. TRUE RIRSPEED IN MNOTS 90. 90. 80. 80. 90. 90. PTAS Bp. 100. 120. 160. TRUE AIRSPEED IN KNOTS

NUMBER VOLUME 5

THE BOEING COMPANY

T



D210-11168-3 NUMBER VOLUME 5

-14

THE BOEING COMPANY REV LTR 59850 - AFT EXTEN LINK CHE BEND SH-243000LB CO-4.4 FHD 264RPM PULLUPS POWER ON 5 DFF E LONG PULLUP PHR ON 2000FT
O OF PULLUP PHR ON 2000FT

LONG PULLUP PHR ON >6000FT

CP PULLUP PHR ON>6000FT

X LONG PULLUP PHR OFF >6000FT

DO OF PULLUP PHR OFF >6000FT

CP PULLUP PHR OFF 2000FT

CP PULLUP PHR OFF 2000FT

X OP PULLUP PHR OFF 2000FT 200 8 88 0 Ð Œ 又 63860A.T. 80. 100. 120. 140. 180-60. PTAS TRUE RIRSPEED IN KNOTS X . 25000 Ů. -ZEDDO. 0 00 + -50000. 40. 80. 100. 120. 140. 180 -PTAS TRUE AIRSPEED IN KNOTS FORM 52300 (10/71)

D210-11168-3 NUMBER VOLUME 5

THE BOEING COMPANY REV LTR ## 24500L8 60=4.4 FW0

POWER ON & OFF TURNS 254RPM

DIT TURN PWR ON 2000FT

DIT TURN PWR ON 2000FT

DIT TURN PWR ON 5000FT

RI TURN PWR ON 5000FT

RI TURN PWR OFF 2000FT

RI TURN PWR OFF 2000FT

RI TURN PWR OFF 5000FT

RI TURN PWR OFF 5000FT

RI TURN PWR OFF 5000FT

RI TURN PWR OFF 5000FT 59860 - AFT EXTEN LINK CHE BEND 8 CAB 10000. ZOOOO. 0 0 0 20. 40. 50. 80. 100. 120. 180. TRUE AIRSPEED IN KNOTS × B B B 00 140. 150. PTAS TRUE HIRSPEED IN KNOTS FORM 52300 (10/71) -18

D210-11168-3 NUMBER VOLUME 5

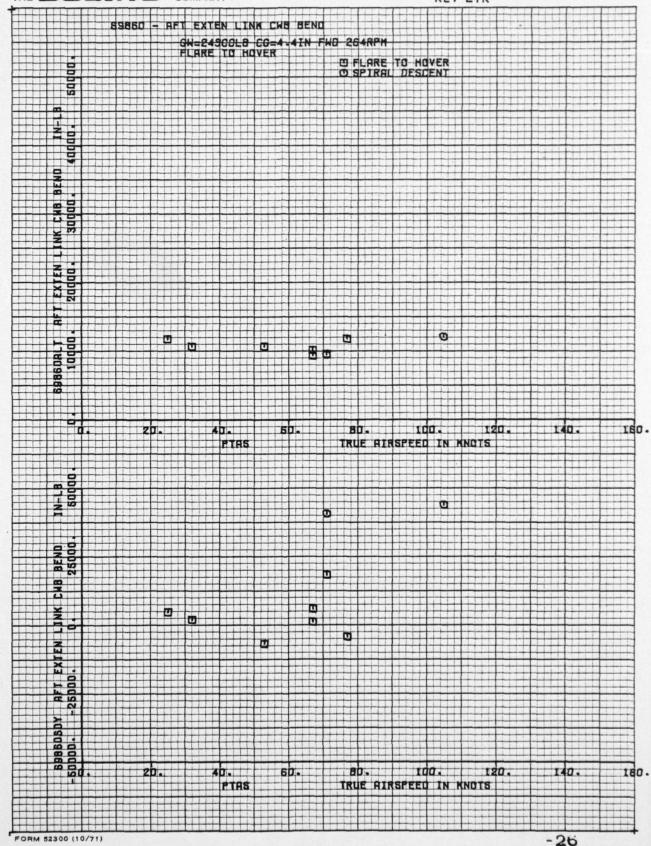
-22

THE BOEING COMPANY

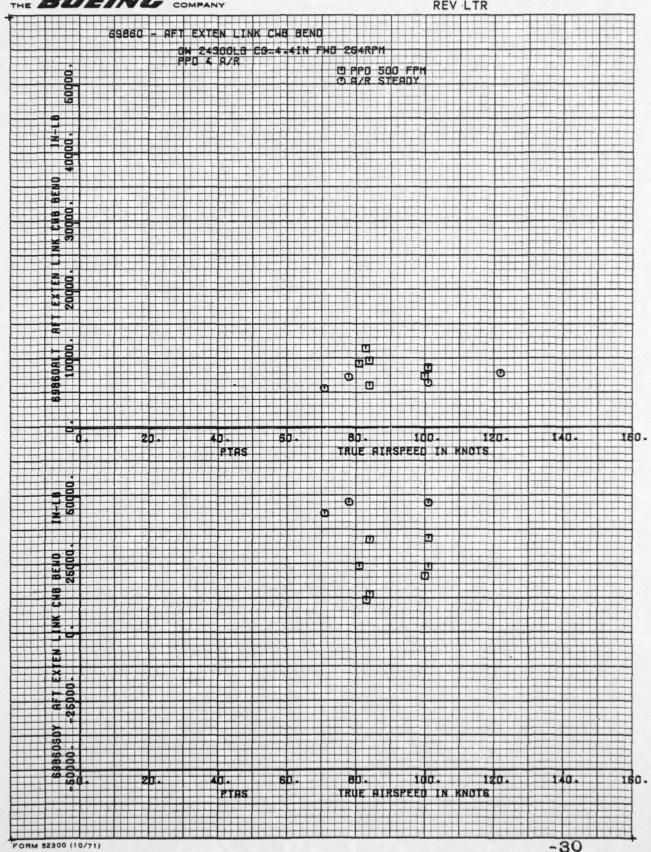
FORM 52300 (10/71)

69860 - AFT EXTEN LINK CWB BEND GH-24300LB CO-4.4TN FHD FOWER ON CONTROL REVERSALS D LAT CONT REV 2000FT + DIR CONT REV 2000FT + LAT CONT REV >6000FT X LONG CONT REV >6000FT (I) A 0 BUSEDALT 12030. 20- 40- 50- 80- 100-160. TRUE AIRSPEED IN KNOTS 0 0 0 199. PTAS TRUE AIRSPEED IN KNOTS

NUMBER VOLUME 5



D210-11168-3 NUMBER VOLUME 5 REV.LTR



NUMBER VOLUME 5

